

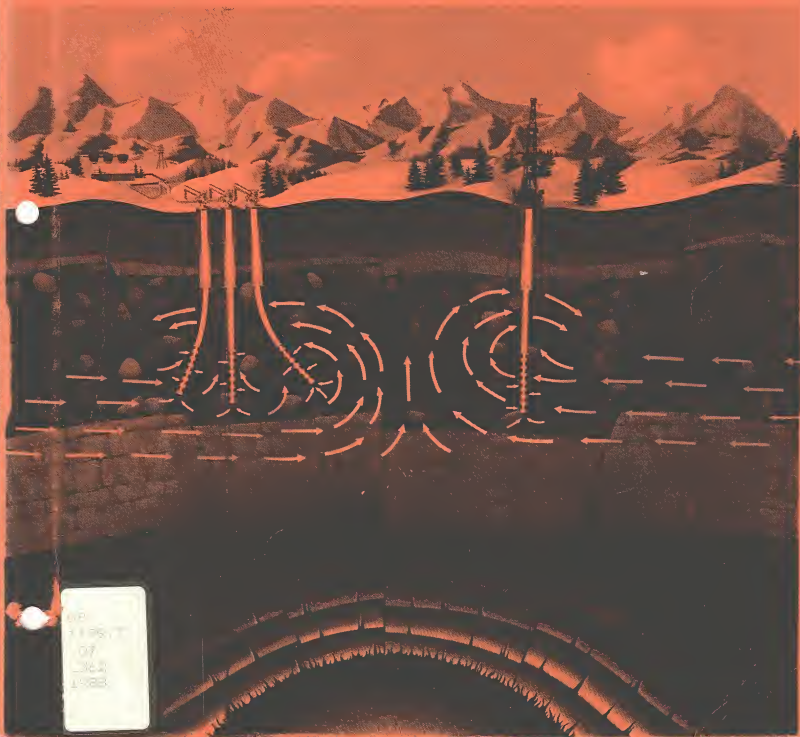
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Oregon State Office

# Guide for Geothermal Offers and Leases





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## United States Department of the Interior

### BUREAU OF LAND MANAGEMENT

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May 13, 1988

Information Bulletin No. OR-88- 233

To: All District Managers

From: State Director

Subject: Geothermal Resources Offers and Leasing Information

Attached for your information is a guide to geothermal leasing which is intended for public distribution to any interested party who may have questions concerning the geothermal leasing program. Included in this reference material is a short narrative on procedures, an appendix composed of the relevant regulations and GRO orders and illustrations of forms, stipulations and notices pertaining to the geothermal program. Copies for public distribution will be mailed from this office unless you request additional copies for direct distribution.

If there are any questions pertaining to the attached material, please call Jackie Clark at FTS 429-6917 or 503-231-6917.

*Paul M. Vetterick*  
Paul M. Vetterick  
Associate State Director

1 Attachment

1 - Guide for Geothermal Offers  
and Leases (66 pp)

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# I. FILING A NONCOMPETITIVE OFFER TO LEASE

An offer must be filed on Form 3200-24, submitted in a sealed envelope marked "Application for lease pursuant to 43 CFR 3210" and accompanied by the advance rental plus a \$75 filing fee. Form 3200-24 states that an original and 2 copies are required although 43 CFR 3210.2-1 requires filing in duplicate for public domain (PD) and triplicate for acquired lands. Because PD and acquired lands are filed on the same form and both can be in a single offer where they should be separated and labeled, use the form requirement.

The filing period is any time within a calendar month. Upon filing, the unopened envelope will be time and date stamped and placed in a safe to be opened on the first working day of the month following the filing date. When the offer is opened, a serial register number is assigned and a Receipt is issued showing the Serial Number, filing fee, rental received and the applicant. A priority number is assigned in accordance with the time and date of filing, the case is entered into the computer and serial register pages are generated and distributed. Each geothermal plat is updated to show the new filing and a copy is placed in the case file.

## See Appendix 1 - Regulations 43 CFR

### Subpart 3200 - Geothermal Leasing; General

- 3200.3 Authority.
- 3200.5 Definitions.

### Subpart 3205 - Service Charges, Rentals and Royalties

- 3205.1-1 Form of remittance.
- 3205.1-2 Where submitted.
- 3205.2 Service charge.
- 3205.3-1 Payment with Application.

### Subpart 3210 - Noncompetitive Leases; General

- 3210.2-1 Application.
- 3210.2-2 Submission of Application

- Illustrations:
- A - Form 3200-24
  - B - Serial Register Page example
  - C - Geothermal Plat example



## II. PREADJUDICATION

Preadjudication is a preliminary check of the lease offer and land status. All offers filed within each calendar month are checked for overlaps as 50% or more overlap in more than one offer will lead to competitive interest, defined in 43 CFR 3200.0-5(k)(3). A determination is required as to whether a competitive interest will be declared a Known Geothermal Resource Area (KGRA). If a KGRA will not be declared, the priority number will determine the case seniority.

Forest Service is notified of all pending offers within their management area at the time of filing. If there are any other withdrawn lands, a standard letter or memo will be sent at this time requesting consent of agency, if needed, and the terms and conditions for leasing. Each BLM District Office and National Forest is sent a serial register page of each pending case. A title report request is sent to the surface management agency for all acquired lands.

Any lands not available for leasing or any request for less than all available land in a section will be rejected. Any offer may be withdrawn at any time until the lease has been executed by the U.S. Qualifications are not required but may be requested if needed. Each action taken that affects a case requires a computer update which generates a new Serial Register Page.

When all necessary actions and updates have been accomplished, the case file is returned to Docket until leasing recommendations are received or until any other action is necessary.

### See Appendix 1 - Regulations 43 CFR

Subpart 3200 - Geothermal Resources Leasing; General  
 3200.0-3 Authority.  
 3200.0-5 Definitions

Subpart 3201 - Available Lands; Limitations; Unit Agreements  
 3201.1-1 General; Lands Subject to Lease  
 3201.1-2 Dept. of the Interior.  
 3201.1-3 Dept. of Agriculture.  
 3201.1-4 Fed Energy Regulatory Comm  
 3201.1-5 Patented lands.  
 3201.1-6 Excepted areas.

Subpart 3202 - Qualifications of Lessees

- 3202.1 Who may hold leases.
- 3202.2 Proof of Qualifications.
  - 3202.2-1 Proof which may be required.
  - 3202.2-2 Guardian or Trustee.
  - 3202.2-3 Attorney-in-fact.
  - 3202.2-4 Statement previously filed
  - 3202.2-5 Showing as to sole party.
  - 3202.2-6 Heirs & Devisees.

Subpart 3203 - Leasing Terms

- 3203.2 Lease Acreage Limitation.
- 3203.4 Description of Lands.

Subpart 3205 - Service Charges, Rentals and Royalties

- 3205.1 Payments.
  - 3205.1-1 Form of remittance.
  - 3205.1-2 Where submitted.
- 3205.2 Service Charges.
  - 3205.3-1 Payment with application.
  - 3205.3-4 Fractional interest.

Subpart 3207 - Leases for a Fractional or Future Interest

- 3207 Fractional or Future Int.
  - 3207.1 General.
    - 3207.2-1 Qualifications-50% of lease.
    - 3207.2-2 Applications.

Subpart 3210 - Noncompetitive Leases; General

- 3210.1 Availability of Land.
  - 3210.2-1 Application.
  - 3210.2-2 Submission of applications.
  - 3210.2-3 Withdrawal of application.
- 3210.3 Determination of Priorities.
- 3210.4 Rejections.

### III. LEASING - NONCOMPETITIVE

Upon receipt of leasing recommendations from the surface management agency, the case file is retrieved and the updated geothermal plats are checked. Preadjudication procedures are reviewed as are the Acreage Control Cards to limit acreage holdings to 51,200 acres. The EA or EIS may be reviewed to determine the accuracy of the leasing recommendations.

Each lease form is filled in showing all land in the offer that is available for leasing in Item 3, the type of lease is marked in the bottom left corner and Exhibit(s) is stamped on the back of the lease form by "LEASE TERMS". Stipulations required by agency leasing recommendations, including FS, FERC, BOR, etc. are attached to each lease. The BLM Exhibit "B", which states that the lease is a conditional development lease, must also be attached to every lease issued. A copy of every lease with stipulations attached is sent to the US F&WS, and in OR also to the OR F&WS, for their report and comments.

If new lease copies are needed for obsolete forms, 3 copies of Form 3200-24 are sent with attached stipulations and an appropriate decision to the applicant by certified mail for execution. If the proper lease copies were already executed by the applicant, one copy of the special stipulations is sent for execution along with the appropriate decision by certified mail. A decision may also request additional rental, suspend a part of the offer or whatever is necessary at this time. Any rejected lands will be handled by a separate decision.

If properly executed copies are not returned and filed in the proper office within 30 days after receipt by offeror, the entire lease offer will be rejected by appropriate decision. After the Appeal period, as stated in the decision, a refund of advance rental will be authorized and sent to MMS for processing.

If properly executed copies are returned timely, a final check will be made of the latest Geothermal Plat. If all is in order, the effective date is stamped on each lease copy and 2 copies (case and lessee) are signed by the Authorized Officer. If an assignment has been filed or a unit agreement approved, they are processed simultaneously with lease issuance. (See section IV.) After a lease has been signed for the U.S. a diligent exploration expenditure (DEE) card with the proper Notice is sent to the lessee.

If any lands within an offer are available for leasing but are not included in a lease at the time of issuance, these lands will be suspended in the same decision which offers a lease for execution on the remainder of the lands. When the suspended lands are ready to lease, a decision will be sent offering 3 copies of a lease amendment for execution. The amendment will carry all of the terms and conditions in the original lease plus any additional terms and conditions that pertain to the specific lands in the amendment. The amendment will also carry the same anniversary date as the original lease so the advance rental must be prorated for the partial year remaining after the amendment is executed by the authorized officer.

See Appendix 1 - Regulations 43 CFR

Subpart 3200 - Geothermal leasing; General

- 3200.0-3 Authority.
- 3200.0-5 Definitions.
- 3200.0-6 Preleasing procedures.
- 3200.0-7 Cross reference.

Subpart 3201 - Available lands; Limitations; Unit Agreements

- 3201.1 Lands subject to geo leasing.
  - 3201.1-1 General.
  - 3201.1-2 Dept. of the Interior.
  - 3201.1-3 Dept. of Agriculture.
  - 3201.1-4 Fed. Energy Regulatory Comm.
  - 3201.1-5 Patented lands.
  - 3201.1-6 Excepted areas.
- 3201.2 Acreage limitations.
- 3201.3 Lease within unit areas.

Subpart 3202 - Qualifications of lessees

3202.1 through 3202.2-6

Subpart 3203 - Leasing terms

- 3203.1-1 Dating of leases.
- 3203.1-2 Primary term.
- 3203.1-5 Segregation of leases on commitment to, or contraction of cooperative or unit plan or communization or drilling agreement.
- 3203.2 Lease acreage limitation.
- 3203.3 Consolidation of leases.
- 3203.4 Description of lands.
- 3203.5 Diligent exploration.

Subpart 3205 - Service Charges, Rentals and Royalties

3205.3-4 Fractional interests.

Subpart 3207 - Leases for a Fractional or Future Interest

- 3207.1 General.
- 3207.2 Noncompetitive leases.
  - 3207.2-1 Qualifications.
  - 3207.2-2 Applications.
- 3207.2-3 Leasing.

Subpart 3210 - Noncompetitive Leases; General

- 3210.2-4 Amendment to lease.
- 3210.3 Determination of priorities.
- 3210.4 Rejections.

- Illustrations:
- D - Partial list of possible stipulations
  - E - Exhibit "B"
  - F - DEE information
  - G - Amendment form

#### IV. LEASING - COMPETITIVE

Lands within a KGRA can only be leased through the competitive sale process. Consent of agency and the receipt of leasing recommendations may be required before a competitive sale can be held if BLM is not the surface management agency.

A sale notice specifying the proper BLM office, the time and place of sale, how bids may be submitted, a description of the lands and the terms and conditions of the sale including royalty and rental rates must be set up for publication and distribution to interested parties. The publication must be in a newspaper of general circulation in the area of available lands once a week for four consecutive weeks or for such other period as the Secretary may direct. A bidder must submit a separate sealed bid for each parcel on the proper form accompanied by one-fifth of the amount bid in accordance with the sale notice.

All sealed bids will be opened as stated in the sale notice but none will be accepted or rejected at that time. If the bids meet all other requirements, the high bids will be sent for evaluation to determine if the bid is acceptable. If the bid is not accepted within 30 days of the sale, that bid is considered rejected. All bidders are notified and bonus bids are returned to all unsuccessful bidders. Successful bidders will receive three lease copies (Form 3200-24) and a decision requesting execution of the lease copies, advance rental (usually \$2 per acre) and the remainder of the bonus bid.

If the lease copies are not returned timely, the case will be closed and the deposit will be forfeited. If the terms of the decision are met timely, the lease is signed by the authorized officer. The effective date is the first of the month following signature for the U.S. One fifth of the bonus bid is required at the time the bid is submitted and the remainder can either be paid at the time of lease issuance or in equal payments on the next two anniversary dates.

#### See Appendix 1 - Regulations 43 CFR

#### Subpart 3220 - Competitive Leases; General

- 3220.1 General.
- 3220.2 Publication of notice of lease sale.
- 3220.3 Contents of notice of lease sale.
- 3220.4 Bidding requirements.
- 3220.5 Award of lease.

Illustrations: H - Bid form

## V. ASSIGNMENTS AND TRANSFERS

Assignments affecting record title must be filed on Form 3000-3 and transfers of Operating Rights must be filed on Form 3000-3a. An overriding royalty (ORR) assignment does not require a special form, but may be shown on the record title assignment form or the Operating Rights form.

A record title assignment for each separate case file must be executed by the assignor and the assignee and be received in the proper BLM office within 90 days of execution. Approval or denial of an assignment is by decision. An ORR must also be filed within 90 days of execution and cannot be for less than 1/4 of 1% and cannot exceed 50% of the rate of royalty due to the U.S. An ORR assignment will not be given formal approval. See Form 3000-3a for an explanation of transfer of operating rights. Usually, in lieu of a transfer of operating rights, a lessee will file a designation of operator. Bond requirements will be found in 43 CFR Subpart 3206 and 3241.3. The Acreage Control Index is always checked prior to processing because no entity may exceed control of 51,200 acres in any one state.

When a record title assignment is approved, the bottom of the form shows either "Same as item 2" or the lands to be approved by this assignment. The effective date, which is the 1st of the month following the filing or completion, is shown at the bottom of the form. If this is a partial assignment, a new serial number is shown at the top of the form.

The decision, including an original for the assignee and duplicate original for the assignor, and the two assignment copies are signed by the Authorized Officer. The original copy is filed in the case and the 2nd copy goes to the assignee. The assignor does not receive a copy of the assignment.

Any percentage of ORR or production payments will be noted on the Acreage Control Cards as chargeable acreage.

### See Appendix i - Regulations 43 CFR

#### Subpart 3206 - Lease Bonds

#### Subpart 3241 - Assignments and Transfers.

- |          |  |                               |
|----------|--|-------------------------------|
| 3241.1-1 | Record title Asgns or transfers of lses or undivided lse interests.  |                               |
| 3241.2-1 | Place of filing and service charge.                                  | 3241.2-2 No. of copies Req.   |
| 3241.2-3 | Time of filing Asgn, transfers of lses, or undivided lease interests |                               |
| 3241.2-4 | Forms and statements.  | 3241.2-5 Description of lands |
| 3241.3   | Bonds.   | 3241.4 Approval.              |
| 3241.5   | Continuing responsibility.   | 3241.6 Production payments.   |
| 3241.7-1 | General: ORR interests.  | 3241.7-2 Limitation of ORR.   |
| 3241.8   | Lease account status; requirements.                                  | 3241.9 Effect of assignment   |

Illustrations: I - Form 3000-3  
J - Form 3000-3a

## VI. TERMINATIONS, RELINQUISHMENTS, CANCELLATIONS AND EXPIRATIONS

To close all or part of any lease, there are four different actions; relinquishment, termination, cancellation and expiration. Relinquishment and cancellation can be either in part or whole while termination and expiration will affect the entire lease.

Relinquishments are initiated by the lessee filing a written relinquishment in triplicate. If a partial relinquishment is filed, the remaining leasehold should contain at least 640 acres unless the rule of approximation applies.

A relinquishment must:

- (1) Describe the lands to be relinquished as shown in the lease;
- (2) Include a statement as to whether the relinquished lands have been disturbed and if so whether they were restored as prescribed by the lease terms;
- (3) State whether wells have been drilled on the lands and if so whether they had been placed in a condition for abandonment; and
- (4) Furnish a statement that all moneys due and payable to workmen employed on the leased premises have been paid.

The effective date of a relinquishment is the date of filing and is subject to payment of all accrued charges and compliance with all laws, regulations, stipulations and GRO Orders with respect to wells and surface disturbances. The lessee will be notified by decision after the affected field office reports that no surface disturbance, etc. has occurred.

Terminations are automatic and will occur by operation of law when payment of rental is not received timely or is deficient by more than 10%. However, under certain circumstances, a lease may be reinstated. A notice of termination will be sent to the lessee and a petition for reinstatement accompanied by the required rental must be returned by the lessee as stated in the notice. The lessee has to show that the failure to pay was either justifiable or not due to a lack of reasonable diligence on the part of the lessee. The authorized officer may require evidence to substantiate the claims of the lessee. No new lease may be issued on terminated lands within 90 days of the termination. No lease may be reinstated if a valid lease has been issued or the lands have become unavailable for leasing. However, reinstatement is discretionary with the Secretary and the basic criterion is whether the Secretary would be willing to issue a lease if a new lease offer for the same land were under consideration.

Cancellation of a lease may occur for any violation of regulations, lease terms or law 30 days after notice of the violation, unless the violation has been corrected or the lessee appeals. If a lease has been issued in error and must be cancelled due to that error, a refund will be authorized.

A lease will expire by operation of law at the end of the primary term without notice to the lessee unless there is production, active drilling or is otherwise in compliance with Sec. 115 (a) of the 1987 Appropriations Act.

A list of all lands from any prior lease must be posted in the BLM State Office Public Room prior to any filing for those lands. The lands become available for lease offers on the date specified in the posted list.

See Appendix i - Regulations 43 CFR

Subpart 3244 - Terminations and Expirations

- 3244.1 Relinquishments.
- 3244.2 Automatic terminations and reinstatements.
- 3244.2-2 Exceptions.
- 3244.3 Cancellation of lease for noncompliance with regulations or lease terms; notice; hearing.
- 3244.4 Expiration by operation of law.
- 3244.5 Removal of materials and supplies upon termination of lease.

Appendix: ii - Geothermal Resources Operational (GRO) Orders 1 through 6  
Appendix: iii - State of Washington leasing information reference

Illustrations:

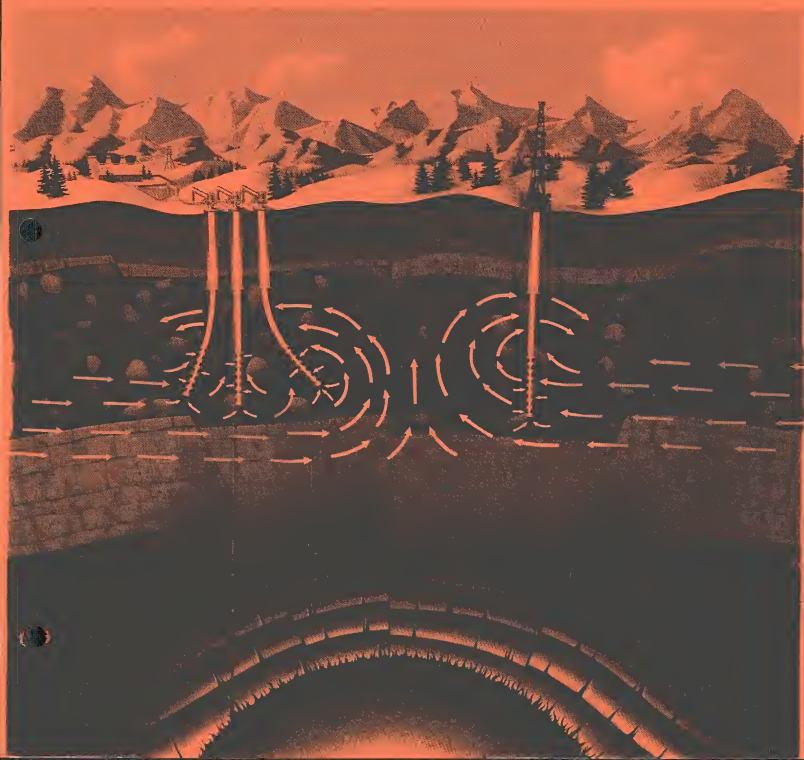
- K - Relinquishment, Form 3200-22
- L - Termination Notice
- M - Sec. 115 of the 1987 Appropriations Act
- N - Sample of posted list of previously leased lands
- O - Miscellaneous forms







# Appendix





## § 3191.4 Standards of delegation.

(a) The Director shall establish minimum standards to be used by a State in carrying out activities established in the delegation.

(b) The delegation shall identify functions, if any, that are to be carried out jointly.

(c) A delegation shall be made in accordance with the requirements of this section.

(d) Copies of delegations shall be on file in the Washington Office of the Bureau and shall be available for public inspection.

## § 3191.6 Delegation for Indian lands.

## § 3191.5-1 Indian lands included in delegation.

(a) No activity under a delegation made under this subpart may be carried out on Indian lands without the written permission of the affected Indian tribe or allottee.

(b) A State requesting a delegation involving Indian lands shall provide, as evidence of permission, a written agreement signed by an appropriate official(s) of the Indian tribe for tribal lands, or by the individual allottees or their representatives for allotted lands. The agreement shall at a minimum specify the type and extent of activities to be carried out by the State under the agreement, and provisions for State access to carry out the specified activities.

(c) Delegations covering Indian lands shall be separate from delegations covering Federal lands.

## § 3191.5-2 Indian lands withdrawn from delegation.

(a) When an Indian tribe or allottee withdraws permission for a State to conduct inspection and related activities on its lands, the Indian tribe or allottee shall provide written notice of its withdrawal of permission to the State.

(b) Immediately upon receipt of a notice of withdrawal of permission, the State shall provide written notification of said notice to the authorized officer, who immediately shall take all necessary action to provide for inspection and enforcement activities on the affected Indian lands.

(c) No later than 120 days after receipt of a notice of withdrawal of permission draw from an Indian tribe or allottee, the delegation on the lands covered by the notice shall terminate.

(d) Upon termination of a delegation covering Indian lands, appropriate changes in funding shall be made by the authorized officer.

## Group 3200—Geothermal Resources Leasing

## PART 3200—GEOTHERMAL RESOURCES LEASING; GENERAL

## Subpart 3200—Geothermal Resources Leasing; General

## Sec.

- 3200.0-3 Authority.
- 3200.0-5 Definitions.
- 3200.0-6 Preleasing procedures.
- 3200.0-7 Cross reference.
- 3200.0-8 Use of surface.

## Subpart 3201—Available Lands; Limitations; Unit Agreements

## 3201.1 Lands subject to geothermal leasing.

- 3201.1-1 General.
- 3201.1-2 Department of the Interior.
- 3201.1-3 Department of Agriculture.
- 3201.1-4 Federal Power Commission.
- 3201.1-5 Patented lands.
- 3201.1-6 Excepted areas.
- 3201.2 Acreage limitations.
- 3201.3 Leases within unit areas.

## Subpart 3202—Qualifications of Lessees

- 3202.1 Who may hold leases.
- 3202.2 Proof of qualifications.
- 3202.2-1 Proof which may be required.
- 3202.2-2 Guardian or trustee.
- 3202.2-3 Attorney-in-fact.
- 3202.2-4 Statements previously filed.
- 3202.2-5 Showing as to sole party in interest.
- 3202.2-6 Heirs and devisees (estates).

## Subpart 3203—Leasing Terms

- 3203.1 Primary and additional term.
- 3203.1-1 Dating of leases.
- 3203.1-2 Primary term.
- 3203.1-3 Additional term.
- 3203.1-4 Extensions.
- 3203.1-5 Segregation of leases on commitment, or contraction of cooperative or unit plan or communitization or drilling agreement.
- 3203.1-6 Conversion to mineral leases or mining claims.

## Bureau of Land Management, Interior

## Sec.

- 3203.2 Lease acreage limitation.
- 3203.3 Consolidation of leases.
- 3203.4 Description of lands.
- 3203.5 Diligent exploration.
- 3203.6 Plans of development and operation.
- 3203.7 Reservation to the United States of oil, hydrocarbon gas, and helium.
- 3203.8 Compensation for drainage; compensatory royalty.
- 3203.9 Readjustment of terms and conditions.

## Subpart 3204—Surface Management Requirements; Special Requirements

## 3204.1 General.

## Subpart 3205—Service Charges, Rentals and Royalties

- 3205.1 Payments.
- 3205.1-1 Form of remittance.
- 3205.1-2 Where submitted.
- 3205.2 Service charges.
- 3205.3 Rentals and royalties.
- 3205.3-1 Payment with application.
- 3205.3-2 Payment of annual rental.
- 3205.3-3 (Reserved).
- 3205.3-4 Fractional interests.
- 3205.3-5 Royalty on production.
- 3205.3-6 Royalty on commercially demineralized water.
- 3205.3-7 Waiver, suspension or reduction of rental or royalty.
- 3205.3-8 Application for and effect of suspension of operations and production.
- 3205.3-9 Readjustments.
- 3205.4 Rental and minimum royalty liability of lands committed to cooperative or unit plans.
- 3205.4-1 Prior to production.
- 3205.4-2 After production.

## Subpart 3206—Lease Bonds

- 3206.1 Types of bonds and filing.
- 3206.1-1 Types of bonds.
- 3206.1-2 Filing of bonds.
- 3206.2 Termination of period of liability.
- 3206.3 Operator's bond.
- 3206.3-1 Compliance.
- 3206.3-2 Approval.
- 3206.3-3 Default.
- 3206.4 Personal bond or corporate bond.
- 3206.4-1 Amount.
- 3206.4-2 Deposit of securities.
- 3206.4-3 Qualified corporate sureties.
- 3206.5 Nationwide bond.
- 3206.6 Statewide bond.
- 3206.7 Default.
- 3206.7-1 Payment by surety.
- 3206.7-2 Penalty.
- 3206.8 Applicability of provisions to existing bonds.

## Sec.

## Subpart 3207—Leases for a Fractional or Future Interest

- 3207.1 General.
- 3207.2 Noncompetitive leases.
- 3207.2-1 Qualifications.
- 3207.2-2 Applications.
- 3207.2-3 Leasing.
- 3207.2-4 Agency action on applications.
- 3207.3 Competitive leasing.
- 3207.3-1 Nominations for leases.
- 3207.3-2 Leasing.

## Subpart 3208—[Reserved]

## Subpart 3209—Geothermal Resources Exploration Operations

- 3209.0-1 Purposes.
- 3209.0-2 Objectives.
- 3209.0-5 Definitions.
- 3209.1 Notice of intent and permit to conduct exploration operations (Geothermal resources).
- 3209.1-1 Application.
- 3209.1-2 Review of Notice of Intent.
- 3209.2 Exploration operations.
- 3209.3 Completion of operations.
- 3209.4 Bond requirement.
- 3209.4-1 General.
- 3209.4-2 Riders to existing bond forms.
- 3209.4-3 Termination of period of liability.

Authority: 30 U.S.C. 1001-1025.  
Source: 36 FR 35062, Dec. 21, 1973, unless otherwise noted.

## Subpart 3200—Geothermal Resources Leasing; General

## § 3200.0-3 Authority.

These regulations are issued pursuant to the Geothermal Steam Act of 1970 (84 Stat. 1566; 30 U.S.C. 1001-1025) and rights to develop and utilize geothermal resources in land subject to these regulations may be acquired only in accordance with these regulations.

## § 3200.0-5 Definitions.

As used in Group 3200, the term:

- (a) "The Act" means the Geothermal Steam Act of 1970.
- (b) "Geothermal lease" means a lease issued under authority of the Act; and unless the context indicates otherwise, "lease" means a "geothermal lease".

(c) "Geothermal resources" means geothermal steam and associated geothermal resources which include:

(1) All products of geothermal processes, embracing indigenous steam, hot water and hot brines; (2) steam and other gases, hot water and hot brines resulting from water, gas, or other fluids artificially introduced into geothermal formations; (3) heat or other associated energy found in geothermal formations; and (4) any by-products derived from them.

(d) "Byproduct" means (1) any mineral or minerals (exclusive of oil, hydrocarbon gas, and helium) which are found in solution or in association with geothermal steam and which have a value of less than 75 per centum of the value of the geothermal steam or are not, because of quantity, quality, or technical difficulties in extraction and production, of sufficient value to warrant extraction and production by themselves, and (2) commercially demineralized water.

(e) "Sole party in interest" means a party who is and will be vested with all legal and equitable rights under the lease. No one is, or shall be deemed to be, a sole party in interest with respect to a lease in which any other party has any interest in the lease.

(f) "Interest in the lease" means any interest whatever in a geothermal lease, including, but not limited to: A record title interest; a working interest; an operating right; an overriding royalty interest; a claim to any prospective or future advantage or benefit from a lease; a participation in any increment, issue, or profit which may be derived, or accrue in any manner, from the lease based upon, or pursuant to, any agreement or understanding in existence at the time when the offer is filed; and an agreement pertaining to any of the foregoing.

(g) "Supervisor" means a representative of the Secretary, subject to the direction and supervision of the Director, the Chief, Conservation Division, Geological Survey and the appropriate Regional Conservation Manager, Conservation Division, Geological Survey, authorized and empowered to regulate operations and to perform other duties prescribed in the regulations in this part or any subordinate of such

representative acting under his direction.

(h) "Primary term" means the first 10 years in the life of the lease, exclusive of any period of suspension of operations or production, or both.

(i) "Area of operation" means that area of the leased lands which is required for exploration, development and producing operations, and which is delineated on a map or plat which is made a part of the approved plan of operations. It encompasses the area generally needed for wells, flow lines, separators, surge tanks, drill pads, mud pits, workshops, and other such facilities used for on-project geothermal resources field exploration, development and production operations.

(j) "Commercial quantities" means quantities sufficient to provide a return after all variable costs of production have been met.

(k) "Known geothermal resource area" or "KGRA" means an area in which the geology, nearby discoveries, competitive interests, or other indicia would, in the opinion of the Secretary, engender a belief in men who are experienced in the subject matter that the prospects for extraction of geothermal steam or associated geothermal resources are good enough to warrant expenditures of money for that purpose.

(l) In determining whether the geology of an area is of such a nature that the area should be designated a KGRA, the Director, Geological Survey, acting for the Secretary, shall use such geologic and technical evidence as he shall deem appropriate, including the following:

(I) The existence of siliceous sinter and natural geysers;

(II) The temperatures of fumaroles thermal springs, and mud volcanoes;

(III) The SiO<sub>2</sub> content of spring water;

(IV) The Na/K ratio in spring waters of hot-water systems;

(v) The existence of volcanoes and calderas of late Tertiary or Quaternary age;

(vi) Conductive heat flows and geothermal gradient;

(vii) The porosity and the permeability of a potential reservoir;

(viii) The results of electrical resistivity surveys;

(ix) The results of magnetic, gravity, and airborne infrared geophysical surveys; and

(x) The information obtained through other geophysical methods such as microseismic, seismic ground noise, electromagnetic, and telluric surveys if such methods prove to have significant use in evaluation.

(2) For purposes of KGRA classification, a "discovery" or "discoveries" will be considered to be any well deemed by the Director, Geological Survey, to be capable of producing geothermal resources in commercial quantities and, where the geological structure is not known, "nearby" will be considered to be five miles or less from any such discovery. Lands nearby a discovery will be classified as KGRA unless the Geological Survey determines that the lands are on a different geologic structure from the discovery. Where the Geological Survey has determined the extent of a structure on which a discovery has been made, all land in that structural area contributing geothermal resources to that discovery will be deemed a KGRA regardless of the distance from the discovery.

(3) "Competitive interest" shall exist in the entire area covered by an application for a geothermal lease if at least one-half of the lands covered by that application are also covered by another application which was filed during the same application filing period, whether or not that other application is subsequently withdrawn or rejected. Competitive interest shall not be deemed to exist in the entire area covered by an application because of an overlapping application, if less than one-half of the lands subject to the first application are covered by any other single application filed during the same application filing period; however, some of the lands subject to the first application may be determined to be within a KGRA pursuant to the first sentence of this paragraph (k)(3).

(i) "Primarily valuable" means the principal mineral value for which the leasehold is being produced.

#### § 3200.0-6 Prelensing procedures.

When an area is initially considered for geothermal leasing or when the need arises, the authorizing officer shall complete, in a timely manner, any environmental review determined to be necessary to conform with the National Environmental Policy Act of 1969 (42 U.S.C. 43232).

148 FR 17044, Apr. 20, 1983

#### § 3200.0-7 Cross reference.

(a) The regulations governing operations under geothermal leases are found in 43 CFR Part 3260.

(b) The regulations setting forth the basic policies for management of the public lands are found in Part 1725 of this chapter.

#### § 3200.0-8 Use of surface.

(a) A lessee shall be entitled to use for the production, utilization, and conservation of geothermal resources only so much of the surface of the leased Federal lands as is deemed necessary for such purposes. The lessee shall have the right to use so much of the leased lands as may be deemed necessary for a power generation plant, or a commercial or industrial facility, and may apply for the right to use so much of other Federal lands as may be deemed necessary for such purposes; however, any use of the leased lands or other Federal lands for a power generation plant or a commercial or industrial facility will be authorized only under a separate permit issued by the appropriate agency for that specific use and subject to all terms and conditions which it may include in that permit. The uses of the lands within the area of operation are subject to the supervision of the supervisor, and the uses of the remaining leased lands or other Federal lands are subject to the supervision of the appropriate surface management agency. The lessee shall not be entitled to use any mineral materials subject to the Materials Act except as provided by Part 3600 of this chapter.

(b) Operations under other leases or uses on the same lands shall not unreasonably interfere with or endanger operations under leases issued under these regulations nor shall operations

under these regulations unreasonably interfere with or endanger operations under any lease, license, claim, permit, or other authorized use pursuant to the provisions of any other act.

### Subpart 3201—Available Lands; Limitations; Unit Agreements

#### § 3201.1 Lands subject to geothermal leasing.

##### § 3201.1-1 General.

Subject to the exceptions listed below, geothermal leases may be issued in combination or separately for (a) lands administered by the Secretary of the Interior; (b) national forest lands or other lands administered by the Department of Agriculture through the Forest Service; and (c) geothermal resources in lands which have been conveyed by the United States subject to a reservation to the United States of geothermal resources.

##### § 3201.1-2 Department of the Interior.

(a) Except as provided in this section, leases may be issued in accordance with the regulations in this part for withdrawn lands, for acquired lands, and for geothermal resources in lands which have passed from Federal ownership subject to a reservation to the United States of the geothermal resources therein where such lands or resources are administered by the Secretary of the Interior.

(b) Notwithstanding any other provision in these regulations, geothermal leases shall not be issued for:

(1) Lands which the Secretary has identified or may identify as being necessary to the performance of his or any other Federal officer's authorized functions, and on which geothermal resource development would in his judgment interfere with such functions; or (2) lands respecting which the Secretary has made or may make a finding that the issuance of geothermal leases would be contrary to the public interest. Upon receipt of an application for a geothermal lease affecting lands withdrawn under section 3 of the Reclamation Act of 1902 (43 U.S.C. 416) or any other appropriate authority, notice thereof and an opportunity to comment thereon shall be given to

the head of the agency for whose benefit the withdrawal was made. No geothermal lease affecting lands withdrawn for any agency outside the Department of the Interior shall be leased without the consent of the head of the agency for which the lands are withdrawn. Where leases are issued under Part 3210 of this chapter or Part 3220 for lands neighboring such reserved lands, the lessees shall be required to perform such lease operations and take such measures as are prescribed by the Secretary for the protection of the Federal interests therein.

##### § 3201.1-3 Department of Agriculture.

Leases for public, withdrawn or acquired lands administered by the Forest Service, may be issued by the Secretary of the Interior only with the consent of, and subject to such terms and conditions as may be prescribed by, the head of that Department to insure adequate utilization of the lands for the purpose for which they were withdrawn or acquired.

##### § 3201.1-4 Federal Power Commission.

Leases for lands to which section 24 of the Federal Power Act, as amended (16 U.S.C. 818), is applicable, may be issued by the Secretary of the Interior only with the consent of, and subject to, such terms and conditions as the Federal Power Commission may prescribe to insure adequate utilization of such lands for power and related purposes.

##### § 3201.1-5 Patented lands.

Geothermal resources in lands which have passed from Federal ownership subject to a reservation to the United States of geothermal resources therein may be leased under the regulations in this group subject to the provisions in this part and to such terms and conditions as may be prescribed by the authorized officer to insure adequate protection of the patented lands and any improvements thereon.

(38 FR 35082, Dec. 21, 1973, as amended at 48 FR 17044, Apr. 20, 1983)

#### § 3201.1-6 Excepted areas.

Leases shall not be issued for lands which are: (a) Administered under the National Park System; (b) within a national recreation area; (c) in a fish hatchery administered by the Secretary, wildlife refuge, wildlife management area, or waterfowl production area, or for lands acquired or reserved for the protection and conservation of fish and wildlife which are designated as rare and endangered species by the Secretary; or under active consideration for inclusion in categories (a), (b), or (c) as evidenced by the filing of an application for a withdrawal or a proposed withdrawal; or (d) tribally or individually owned Indian trust or restricted lands, within or without the boundaries of Indian reservations.

#### § 3201.2 Acreage limitations.

(a) *Maximum holdings.* No citizen, association, corporation, or governmental unit shall take, hold, own, or control at one time, whether acquired directly from the Secretary or otherwise, any direct or indirect interest in Federal geothermal leases in any one State exceeding 51,200 acres, including leases acquired under the provisions of section 4(a)-(f) of the Act. Nor may any citizen, association, or corporation be permitted to convert mineral leases, permits, applications, therefor, or mining claims, pursuant to the provisions of section 4(a)-(f) of the Act into geothermal leases for more than 10,240 acres.

(b) *Computation.* In computing acreage holdings or control, the accountable acreage of a party owning an undivided interest in a lease shall be that party's proportionate part of the total lease acreage. Likewise, the accountable acreage of a party owning an interest in a corporation or association shall be his proportionate part of the corporation's or association's accountable acreage except that no person shall be charged with his pro rata share of any acreage holdings of any association or corporation unless he is the beneficial owner of more than 10 percent of the stock or other instruments of ownership or control of that association or corporation. Parties owning a royalty or other interest

determined by or payable out of a percentage of production from a lease will be charged with a similar percentage of the total lease acreage. Where the United States owns a present fractional interest in the geothermal resources in the leased lands, only that portion of the total acreage currently owned by the United States shall be charged as acreage holdings. The acreage embraced in a future interest lease shall not be chargeable as acreage holdings until the future interest vests in the United States.

(1) An association shall not be deemed to exist between the parties to a contract for development of leased lands, whether or not coupled with an interest in the lease, nor between co-lessees, but each party to an such contract or each co-lessee will be charged with his proportionate interest in the lease.

(2) Lessees holding acreage in common shall be considered a single entity and cannot hold acreage in excess of the maximum specified in the law for any one lessee.

(c) *Excepted acreage.* Leases committed to any unit or cooperative plan approved or prescribed by the Secretary of the Interior shall not be included in computing accountable acreage. Leases subject to an operating, drilling or development contract approved by the Secretary pursuant to section 18 of the Act, other than communication or drilling agreements, shall be excepted in determining the accountable acreage of the lessees or operators.

(d) *Excess acreage.* (1) Where, as the result of the termination or contraction of a unit or cooperative plan, or the elimination of a lease from operating, drilling, or development plan, a party holds or controls excess accountable acreage, such party shall have 90 days from such termination or contraction or elimination in which to reduce his holdings to the prescribed limitation.

(2) If any person holding or controlling leases or interests in leases is found to hold accountable acreage in violation of the provisions of this section and of the Act, the last lease or leases or interest or interests acquired by him which created the excess acreage holdings shall be canceled or for-



felled in their entirety, even though only part of the acreage in the lease or interest constitutes excess holdings, unless it can be shown to the satisfaction of the Director that the holding or control of the excess acreage is not the result of negligence or willful intent in which event the lease or leases shall be canceled only to the extent of the excess acreage.

138 FR 35082, Dec. 21, 1973, as amended at 47 FR 5004, Feb. 3, 1982; 48 FR 17044, Apr. 20, 1983; 48 FR 24368, June 1, 1983; 50 FR 38813, Sept. 25, 1985)

### § 3201.3 Leases within unit areas.

Before issuance of a geothermal lease for lands within an approved unit agreement, the lease applicant or successful bidder will be required to file evidence that he has entered into an agreement with the unit operator for the development and operation of the lands in a lease if issued to him under and pursuant to the terms and provisions of the approved unit agreement, or a statement giving satisfactory reasons for the failure to enter into such agreement. If such statement is acceptable, he will be permitted to operate independently but will be required to perform his operations in a manner which the Supervisor deems to be consistent with the unit operations.

### Support 3202—Qualifications of Lessees

#### § 3202.1 Who may hold leases.

Leases may be issued only to: (a) Citizens of the United States who have reached the age of majority; (b) associations of such citizens; (c) corporations organized under the laws of the United States, any state or the District of Columbia; or (d) governmental units, including, without limitation, municipalities. The term "association" includes a partnership.

#### § 3202.2 Proof of qualifications.

Submission of a lease application or offer, or request for approval of an assignment, shall constitute certification of compliance with the regulations of this group and the Geothermal Steam Act of 1970. (30 U.S.C. 1001-1025.) Any

party seeking to acquire or already holding a Federal geothermal lease or interest therein may be required by the authorized officer to submit proof that the party is qualified to hold a geothermal lease. Such proof shall be submitted within 30 days after receipt of request.

(48 FR 24368, June 1, 1983)

#### § 3202.2-1 Proof which may be required.

The authorized officer may require:

(a) Evidence that the lessee does not hold acreage in excess of that prescribed in § 3201.2 of this title. A lessee may be additionally required to submit the serial numbers and percent interest held in all leases as of a specified date.

(b) Evidence that the lessee or applicant is a citizen of the United States or, if a corporation or association, that the entity is in compliance with § 3201.1 of this title.

(c) Evidence that the individual executing an application, lease, or transfer of interest on behalf of another party is authorized to act in that capacity. In the case of a guardian or trustee, a copy of the authorizing court order or other legal instrument shall constitute such evidence.

(d) Evidence indicating whether the applicant or lessee is the sole party in interest and, if not, providing the names, addresses, and nature of interests of any other parties.

(e) Evidence showing that the municipality or governmental unit involved is authorized to hold geothermal leases. The evidence shall include a copy of the governing body's resolution authorizing the particular action being taken.

(f) Evidence setting forth the names and addresses of all members or stockholders controlling more than 10 percent of the corporation or association.

(48 FR 24368, June 1, 1983)

#### § 3202.2-2 Guardian or trustee.

(a) *Guardian.* If the application is made by a guardian, he must submit:

(1) A certified copy of the court order authorizing him to act as guardian and in behalf of his ward, to enter into contractual agreements and to

fulfill all obligations arising under the lease; and (2) statements as to the citizenship and holdings under the Act of himself and of each person under his guardianship for whom the application is made.

(b) *Trustee.* If the application is made by a trustee, he must submit a copy of the instrument establishing the trust or a certified copy of the court order authorizing him to act as trustee, in behalf of the beneficiary, as to all obligations arising under the lease; and statements as to the citizenship and holdings under the Act of himself and of each beneficiary.

#### § 3202.2-3 Attorney-in-fact.

If an application is filed by an attorney-in-fact, it must be accompanied by a statement as to his authority to act.

#### § 3202.2-4 Statements previously filed.

Where the statements required by § 3202.2 have been previously filed a reference by serial number to the record in which they have been filed, together with a statement as to any amendments will be accepted.

#### § 3202.2-5 Showing as to sole party in interest.

Each application must indicate whether the applicant is the sole party in interest. Where the applicant is not the sole party in interest, separate statements must be signed by each of the parties and by the applicant setting forth the nature of the agreement between them. All interested parties must furnish evidence of their qualifications to hold such lease interest. These separate statements must be filed in the proper BLM office with the application, except as provided in § 3211.2 of this chapter.

#### § 3202.2-6 Heirs and devisees (estates).

If an application or a successful bidder dies before the lease is issued, the lease will be issued to the executor or administrator of the estate if probate of the estate has not been completed, and if probate has been completed, or is not required, to the heirs or devisees, provided there is filed in all cases an application to lease in compliance with the requirements of this section which will be effective as of the effective

date of the original application filed by the deceased. If there are any minor heirs or devisees, the application can only be made by their legal guardian or trustee in his name. Each such application must be accompanied by the following information:

(a) Where probate of the estate has not been completed:

(1) Evidence that the person who as executor or administrator submits the application, and bond form if a bond is required, has authority to act in that capacity and to sign the application and bond form.

(2) A statement over the signature of each heir or devisee or, if the heir or devisee is a minor, over the signature of his legal guardian or trustee, concerning citizenship and holdings.

(3) Evidence that the heirs or devisees are the heirs or devisees of the deceased applicant or successful bidder and are the only heirs or devisees of the deceased.

(b) Where the executor or administrator has been discharged or no probate proceedings are required:

(1) A certified copy of the will or decree of distribution, if any, and if not, a statement signed by the heirs that they are the only heirs of the applicant or successful bidder and the provisions of the law of the deceased's last domicile showing that no probate is required.

(2) A statement over the signature of each of the heirs or devisees with reference to holdings and citizenship. If the heir or devisee is a minor, the statement must be over the signature of the guardian or trustee.

### Support 3203—Leasing Terms

#### § 3203.1 Primary and additional terms.

##### § 3203.1-1 Dating of leases.

All geothermal leases will be dated as of the first day of the month following the date on which the leases are signed on behalf of the lessor except that, where prior written request has been made, a lease may be dated as of the first day of the month within which it is so signed. A renewal lease will be dated from the termination of the original lease.



§ 3203.1-2 *Primary term.*

All leases shall be for a primary term of 10 years.

§ 3203.1-3 *Additional term.*

(a) If geothermal steam is produced or utilized in commercial quantities within the primary term of a lease, that lease shall continue for so long thereafter as geothermal steam is produced or utilized in commercial quantities, but the lease shall in no event continue for more than 40 years after the end of the primary term except that the lessee shall have a preferential right to a renewal of his lease for a second 40-year term upon such terms and conditions as the authorized officer deems appropriate. If at the end of the first 40-year term the lands are not needed for another purpose and geothermal steam is produced or utilized in commercial quantities. Production or utilization of geothermal steam in commercial quantities shall be deemed to include the completion of one or more wells producing or capable of producing geothermal steam in commercial quantities and a bona fide sale of such geothermal steam for delivery to or utilization by a facility or facilities not yet installed but scheduled for installation not later than 15 years from the date of commencement of the primary term of the lease.

§ 3203.1-4 *Extensions.*

(a) A lease which has been extended by reason of production, or on which geothermal steam has been produced, and which has been determined by the Secretary to be incapable of further commercial production and utilization of geothermal steam may be further extended so long as one or more valuable byproducts are produced in commercial quantities but for not more than 5 years.

(b) Where the lessee commenced actual drilling operations prior to the end of the primary term and those operations are being diligently prosecuted at that time, a lease shall be extended for a period of five years and so long thereafter as geothermal steam is produced or utilized in commercial quantities (but for not more than 35 years).

(c) A lease committed to a cooperative plan, communitization agreement or a unit plan under or for which actual drilling operations were commenced prior to the end of the primary term of the lease, shall, if such operations are being diligently prosecuted at that time be extended for a period of five years and so long thereafter as geothermal steam is produced or utilized in commercial quantities (but for not more than thirty five years).

(d) Any lease on which there has been a suspension of operations or productions, or both, under 30 CFR 270.17 shall continue in effect for the life of the suspension and, at the end of the suspension, shall be extended for a period equal to that portion of the primary term during which the suspension was in effect.

(e) If, at the end of 40 years after the conclusion of the primary term steam is being produced or utilized in commercial quantities and the lands are not needed for other purposes, the lessee shall have a preferential right to a renewal of the lease for a second 40-year term on such terms and conditions as the Secretary deems appropriate.

§ 3203.1-5 *Segregation of leases on commitment or contraction of cooperative or unit plan or communitization or drilling agreement.*

(a) Any lease committed to any cooperative plan, communitization agreement, drilling agreement, or unit plan, which covers lands within and lands outside the area covered by the plan or agreement, shall be segregated, as of the effective date of that plan or agreement, into separate leases, one covering the lands committed to that plan or agreement and the other as to the lands not so committed. The segregated lease covering the portion of the lands not subject to that plan or agreement shall not be entitled to an extension by reason of the segregation, but the term of the lease of such segregated lands shall be as provided in the original lease.

(b) When only part of the land subject to a lease included in a cooperative plan, a communitization agree-

ment, a drilling agreement, or a unit plan is excluded from that plan or agreement because of the contraction of the area subject to that plan or agreement, the part of the lease which is excluded and the part which remains subject to the plan or agreement shall be segregated into separate leases. The term of the segregated lease composed of the excluded land shall not be extended because of production in commercial quantities or the existence of a producible well on the segregated lease remaining subject to the cooperative or unit plan or the communitization or drilling agreement or because actual drilling operations were at the time of contraction being conducted on that other lease, but the term of the lease composed of the excluded land shall be as provided in the original lease.

(c) Where all the land subject to a lease included in a cooperative plan, a communitization agreement, a drilling agreement, or a unit plan is excluded from that plan or agreement because of the contraction of the area subject to that plan or agreement, the term of the lease shall not be extended because of production in commercial quantities or the existence of a producible well on the lands remaining subject to the cooperative or unit plan or the communitization or drilling agreement or because actual drilling operations were being conducted on the other lands, but the term of the lease shall be as provided in the original lease.

(d) Contraction of a unit or cooperative plan or a communitization or drilling agreement causing all or part of the land in the lease to be excluded from such plan or agreement shall not serve to extend the term of such lease excluded by reason of the contraction where the 10-year primary term has already expired.

§ 3203.1-6 *Conversion to mineral leases or mining claims.*

(a) If the byproducts capable of being produced in commercial quantities are leaseable under the Mineral Leasing Act of February 25, 1920 as amended and supplemented (30 U.S.C. sections 181-287), or under the Mineral Leasing Act for Acquired Lands (30

U.S.C. sections 351-359), and the leasehold is primarily valuable for the production thereof, the lessee shall be entitled to convert his geothermal lease to a mineral lease under and subject to all the terms and conditions of the appropriate act, provided the lands and its resources are available for this purpose, upon application at any time before expiration of the lease extension by reason of byproduct production.

(b) The lessee shall be entitled to locate under the mining laws all minerals which are not leaseable and which would constitute a byproduct if commercial production or utilization of geothermal steam continued. The lessee, to acquire the rights herein granted him, shall complete the location of mining claims within 90 days after the termination of the geothermal lease, provided the lands and its resources are available for location.

(c) Any lease converted under paragraph (a) or (b) of this section affecting lands withdrawn or acquired in aid of a function of a Federal department or agency, including the Department of the Interior, shall be subject to such additional terms and conditions as may be prescribed by that department or agency with respect to the additional operations or effects resulting from such conversion upon the utilization of the lands for the purpose for which they are administered.

§ 3203.2 *Lease acreage limitation.*

(a) A geothermal lease may not embrace more than 2,560 acres in a reasonably compact area, except where a departure is occasioned by an irregular subdivision or subdivisions, entirely within an area of 6 miles square or within an area not exceeding six surveyed or protracted sections in length or width measured in cardinal directions. A lease offer may not exceed 2,560 acres except where the rule of approximation applies.

(b) No lease shall be issued for less than 640 acres, except at the discretion of the Secretary. The Secretary may issue a lease for less than 640 acres where geothermal resources will be utilized for non-electrical purposes, or as provided for in Part 3230 of this

chapter with respect to "conversion rights."

(c) Where a departure is occasioned by an irregular subdivision, the leased acreage may be less than 640 acres by an amount which is smaller than the amount by which the area would be more than 640 acres if the irregular subdivision were added.

(d) The authorized officer may add isolated tracts of more or less than 640 acres in nearby sections, to a lease application where it is determined that such addition is necessary for the proper management of the resource, provided the additional lands will not cause the lessee to exceed the maximum acreage limitation as provided in § 3201.2(a) of this chapter. However, prior to the issuance of such a lease based on the application as amended by the authorized officer, the applicant shall be given the option to refuse such a lease. Failure of the applicant to execute and return the lease within 30 days after receipt thereof will constitute a withdrawal of the application, as amended, without further notice.

[44 FR 12038, Mar. 5, 1979]

#### § 3203.3 Consolidation of leases.

Two or more contiguous leases issued to the same lessee may be consolidated if the total combined acreage does not exceed 2,560 acres. Except where a decrease is caused by an irregular subdivision or subdivisions as stated in § 3203.2.

#### § 3203.4 Description of lands.

Applications and nominations shall include a description of the lands sought to be included in a geothermal lease.

(a) *Surveyed lands.* If the lands have been surveyed under the public land rectangular system, each application or nomination shall describe the lands by legal subdivision, section, township, and range.

(b) *Unsurveyed lands.* If the lands have not been so surveyed, each application shall describe the lands by metes and bounds, giving courses and distances between the successive angle points on the boundary of the tract, in cardinal directions except where the boundaries of the lands are in irregu-

lar form, and connected by courses and distances to an official corner of the public land surveys or to a prominent topographic feature. In Alaska the description of unsurveyed lands must be connected by courses and distances to either an official corner of the public land surveys or to a triangulation station established by any agency of the United States (such as the U.S. Geological Survey, the Coast and Geodetic Survey, or the International Boundary Commission), if the record position thereof is available to the general public.

(c) *Protracted surveys.* When protracted surveys have been approved and the effective date thereof published in the FEDERAL REGISTER, each application or nomination for lands shown on such protracted surveys, filed on or after such effective date, shall describe the lands according to the legal subdivision, section, township, and range shown on the approved protracted surveys.

(d) *Unsurveyed public lands adjacent to tidal waters in southern Louisiana and in Alaska.* In lease applications embracing unsurveyed public lands adjacent to tidal waters in southern Louisiana and in Alaska, if the applicant finds it impracticable to furnish a metes and bounds description, as required in paragraph (b) of this section with respect to the water boundary, he may, at his option, extend the boundary of his application into the water a distance sufficient to permit complete enclosure of the water boundary of his application by a series of courses and distances in cardinal directions (the object being to eliminate the necessity of describing the meanders of the water boundary of the public lands included in the application). The description in the lease application shall in all other respects conform to the requirements of paragraph (b) of this section. Such description would not be deemed for any purpose to describe the true water boundaries of the lease, such boundaries in all cases being the ordinary high water mark of the navigable waters. The land boundaries of such overall area shall include only the public lands embraced in the application. The applicant shall agree to pay rental on the

full acreage included within the description with the understanding that rights under any lease to be issued on that application will apply only to the areas within that description properly subject to lease under the act, but that the total area described will be considered as the lease acreage for purposes of rental payments, acreage limitations under § 3201.2 of this chapter and the maximum or minimum area to be included in a lease pursuant to § 3203.2. The tract should be shown in outline on a current quadrangle sheet published by the U.S. Geological Survey or such other map as will adequately identify the lands described.

#### § 3203.5 Diligent exploration.

Each geothermal lease shall include provisions requiring diligent exploration until there is a well(s) capable of commercial production on the leased lands. Diligent exploration means postlease field operations, conducted by the lessee or designated operator, on or related to the leased lands. Diligent exploration operations include, but are not limited to, geochemical surveys, heat flow measurement, core drilling or test drilling of test wells. To qualify as diligent exploration, the results and detailed expenditures of the operation shall be submitted to the supervisor in accordance with applicable regulations. In addition, to qualify after the fifth year of the lease, operations shall exceed minimum per acre expenditure in accordance with the following table:

Lease year	Expenditure per acre
0	\$4
1	6
2	8
3	9
10-15	12

All expenditures qualifying as diligent exploration during the first 5 years of a lease, and all expenditures during any subsequent year in excess of the minimum requirement, shall be credited by the supervisor against the requirement for successive years. How-

ever, in lieu of performing the minimum required diligent exploration in any lease year in which a minimum requirement is specified, the lessee may exercise the option of paying an additional rental of \$3 per acre or fraction thereof. Failure to either pay the additional rental or complete the minimum required diligent exploration by the end of a lease year shall subject the lease to cancellation.

[48 FR 17044, Apr. 20, 1983]

#### § 3203.6 Plans of development and operation.

No entry upon the leased lands for purposes other than as casual use as defined in § 3209.0-5(d) of this chapter will be permitted until either a notice of intent or a plan of operation has been approved.

(a) The lessee shall submit a notice of intent in accordance with 43 CFR 3264.4 prior to entry upon the lands for purposes of conducting exploration operations as defined in § 3209.0-5 of this chapter.

(b) The lessee shall submit a plan of operation pursuant to 43 CFR 3262.4, prior to entry upon the leased lands for purposes of drilling exploratory and development wells, including construction of testing and production facilities, except as provided in paragraph (a) of this section. Subsequent well operations shall be conducted under a modified or amended plan of operations as provided in 43 CFR 3262.4-2.

[44 FR 12038, Mar. 5, 1979]

#### § 3203.7 Reservation to the United States of oil, hydrocarbon gas, and helium.

The United States reserves the ownership of and the right to extract oil, hydrocarbon gas, and helium from all geothermal steam and associated geothermal resources produced from lands leased under the Act. Whenever the right to extract oil, hydrocarbon gas, and helium, from geothermal steam and associated geothermal resources produced from such lands is exercised, it shall be exercised so as to cause no substantial interference with the production of geothermal resources from such lands.

[38 FR 35082, Dec. 21, 1973. Redesignated at 48 FR 17045, Apr. 20, 1983]

### § 3203.8 Compensation for drainage; compensatory royalty.

(a) Upon a determination by the Supervisor that lands owned by the United States are being drained of geothermal resources by wells drilled on adjacent or cornering lands, the authorized officer may execute agreements with the owners of adjacent or cornering lands whereby the United States, or the United States and its lessees, shall be compensated for such drainage, such agreements to be made with the consent of any lessee affected thereby. The precise nature of any agreement will depend on the conditions and circumstances involved in the particular case.

(b) Where land in any lease is being drained of its geothermal resources by a well either on a Federal lease issued at a lower rate of royalty or on land not the property of the United States, the lessee must drill and produce all wells necessary to protect the leased lands from drainage. In lieu of drilling such wells, the lessee may, with the consent of the Supervisor, pay compensatory royalty in the amount determined in accordance with 43 CFR Part 3260.

[38 FR 35082, Dec. 21, 1973. Redesignated at 48 FR 17045, Apr. 20, 1983]

### § 3203.9 Readjustment of terms and conditions.

(a) (1) Except as otherwise provided by law, the terms and conditions of any geothermal lease may be readjusted as determined by the authorized officer at not less than 10-year intervals beginning 10 years after the date the geothermal resource is produced and utilized commercially for any purpose including the generation of electricity.

(2) At such time as the geothermal resource is being commercially produced, the authorized officer shall give notice to the lessee, by written decision, of any proposed readjustment of the terms and conditions of the lease and the nature thereof, and unless the lessee files with the authorized officer an objection to the proposed terms and conditions or relinquishes the lease within 30 days after

receipt of such notice, the lessee shall be deemed conclusively to have agreed to such terms and conditions. If the lessee files objections, and agreement cannot be reached between the authorized officer and the lessee within a period of 60 days, the lease may be terminated by either party, subject to the provisions of § 3000.4 of this chapter. If the lessee files objections to the proposed readjusted terms and conditions, the existing terms and conditions will remain in effect until there has been an agreement between the authorized officer and the lessee on the new terms and conditions to be applied to the lease or until the lease is terminated. The readjustment of any terms concerning rental and royalty rates will be subject to § 3205.3 of this chapter.

(b) Any readjustment of the terms and conditions of any lease of lands withdrawn or acquired in aid of a function of a Federal department or agency may be made only with the approval of that other agency.

[44 FR 12038, Mar. 6, 1979. Redesignated at 48 FR 17045, Apr. 20, 1983]

### Subpart 3204—Surface Management Requirements; Special Requirements

#### § 3204.1 General.

A lessee shall comply with all of the standard lease terms and conditions, any special lease stipulations added by the authorized officer and all Geothermal Resource Operational Orders issued pursuant to 43 CFR 3261.2.

[48 FR 17045, Apr. 20, 1983]

### Subpart 3205—Service Charges, Rentals and Royalties

#### § 3205.1 Payments.

##### § 3205.1-1 Form of remittance.

All remittances shall be by U.S. currency, postal money order or negotiable instrument payable in U.S. currency and shall be made payable to the Department of the Interior—Bureau of Land Management or the Department of the Interior—The Minerals Management Service, as appropriate. In the case of payments made to the

Service, such payments may also be made by electronic funds transfer.

[49 FR 11637, Mar. 27, 1984]

#### § 3205.1-2 Where submitted.

(a)(1) All filing fees for lease applications or offers or for applications for approval of an instrument of transfer and all first-year rentals and bonuses for leases issued under Group 3200 of this title shall be paid to the proper BLM office.

(2) All second-year and subsequent rentals and deferred bonus amounts payable after the initial payment for leases shall be paid to the Service.

(b) All royalties on producing leases, communitized leases in producing well units, unitized leases in producing unit areas, leases on which compensatory royalty is payable and all royalty payments under easements for directional drillings are to be paid to the Service.

[49 FR 11637, Mar. 27, 1984, as amended at 49 FR 39330, Oct. 5, 1984]

#### § 3205.2 Service charges.

(a) *Competitive lease applications.* No service charge is required.

(b) *Noncompetitive lease applications.* Applications for noncompetitive leases must be accompanied by a nonrefundable service charge of \$75 for each application.

(c) *Assignments.* Applications for approval of an assignment of a lease or interest therein must be accompanied by a nonrefundable service charge of \$50 for each application.

(d) *Nominations.* No service charge is required.

[49 FR 35082, Dec. 21, 1973, as amended at 49 FR 38813, Sept. 25, 1985]

#### § 3205.3 Rentals and royalties.

##### § 3205.3-1 Payment with application.

Each application must be accompanied by payment of the first year's rental of \$1 per acre or fraction thereof based on the total acreage included in the application. An application accompanied by a payment of the first year's rental which is deficient by not more than 10 percent shall be accepted by the authorized officer provided all other requirements are met, but if the additional rental is not paid within

30 days after receipt of notice of the application shall be rejected or the lease, if issued, will be canceled. If the annual rental established for the lease to be issued is more than \$1 per acre or fraction thereof, the applicant shall submit the additional rental due within 30 days after receipt of notice of the application shall be rejected.

[38 FR 35082, Dec. 21, 1973, as amended at 48 FR 6337, Feb. 14, 1983; 48 FR 17045, Apr. 20, 1983]

##### § 3205.3-2 Payment of annual rental.

(a) Annual rental in the amount specified in the lease which shall be not less than \$1 per acre or fraction thereof must be paid in advance and must be received by the proper BLM office on or before the anniversary date of the lease. If there is no well on the leased lands capable of producing geothermal resources in commercial quantities, the failure to pay rental on or before the anniversary date shall terminate the lease by operation of law, except as provided by § 3244.2 of this chapter.

(b) If, on the anniversary date of the lease, less than a full year remains in the lease term, the rentals shall be payable in the same proportion as the period remaining in the lease term is to a full year. The rentals shall be prorated on a monthly basis for the full months, and on a daily basis for the fractional month remaining in the lease term. For the purpose of prorating rentals for a fractional month, each month will be deemed to consist of 30 days.

(c) If the term of a lease for which prorated rentals have been paid is further extended to or beyond the next anniversary date of the lease, rentals for the balance of the lease year shall be due and payable on the 1st day of the first month following the date through which the prorated rentals were paid. If the rentals are not paid for the balance of the lease year, the lease will be subject to cancellation. However, if the anniversary date occurs before the end of the notice period, the rental for the following lease year shall nevertheless be due on the anniversary date and failure to pay the full rental for that year on or

before that date shall cause the lease to terminate automatically by operation of law except as provided by § 3244.2 of this chapter. The lessee shall not be relieved of liability for rental due for the balance of the previous lease year.

(d) If the payment is due on a day in which the proper BLM office to receive payment is not open, payment received on the next official working day will be deemed to be timely.

#### § 3205.3-3 [Reserved]

#### § 3205.3-4 Fractional Interests.

Rentals and minimum royalties payable under leases for lands in which the United States owns only an undivided present or future fractional interest shall not be prorated, but shall be paid for the full acreage in the leased lands. However, royalty on production from such lands shall be payable in the same proportion to the royalty provided for in § 3205.3-5 of this title as the undivided fractional interest of the United States in the geothermal resources is to the full geothermal resources interest.

[47 FR 5004, Feb. 3, 1982]

#### § 3205.3-5 Royalty on production.

Royalty shall be paid at the following rates on geothermal resources:

(a) A rate, as set forth in the lease, of not less than 10 per centum and not more than 15 per centum of the amount or value of steam, or any other form of heat or energy derived from production under the lease and sold or utilized by the lessee or reasonably susceptible to sale or utilization by the lessee;

(b) A rate as set forth in the lease, of not more than 5 per centum of any byproduct derived from production under the lease and sold or utilized or reasonably susceptible to sale or utilization by the lessee, except that as to any byproduct which is a mineral named in section 1 of the Mineral Leasing Act of February 25, 1920, as amended (30 U.S.C. 181), the rate of royalty for such mineral shall be the same as that provided in that Act and the maximum rate of royalty for such mineral shall not exceed the maxi-

mum royalty applicable under that Act;

(c) In no event shall the royalty on any producing lease for any lease year, commencing with the lease year beginning on or after the commencement of production in commercial quantities, be less than \$2 per acre or fraction thereof, and this minimum royalty, in lieu of rental, shall be payable at the expiration of each lease year.

#### § 3205.3-6 Royalty on commercially demineralized water.

All geothermal leases issued pursuant to the provisions of this group shall provide for the payment to the lessor of a royalty on commercially demineralized water at a rate to be specified in the lease of not more than 5 per centum of the value of such commercially demineralized water that has been sold or utilized by the lessee or is reasonably susceptible of sale or utilization by the lessee, except that no payment of a royalty will be required on such water if it is used in plant operation for cooling or in the generation of electric energy or otherwise.

#### § 3205.3-7 Waiver, suspension or reduction of rental or royalty.

(a) The authorized officer may waive, suspend, or reduce the rental or royalty for any lease or portion thereof in the interests of conservation and to encourage the greatest ultimate recovery of geothermal resources if he determines that this is necessary to promote development or that the lease cannot be successfully operated under the lease terms. No waiver, suspension or reduction of rental or royalty will be granted where the only reason for the request for such relief is the unavailability of power generating facilities to utilize the geothermal steam.

(b) An application hereunder shall be filed in triplicate with the Supervisor, and must:

(1) Contain the serial number of the leases and the names of the lessee and operator; (2) show the number, location, and status of each well that has been drilled, a tabulated statement for each month covering a period of not less than 6 months prior to the date of

filing the application of the aggregate amount of production subject to royalty computed in accordance with the operating regulations, the number of wells counted as producing each month, and the average production per well per day; (3) contain a detailed statement of expenses and costs of operating the lease, the income from the sale of any leased products and all facts tending to show whether the wells can be successfully operated using the royalty or rental fixed in the lease; and (4) where the application is for a reduction in royalty, furnish full information as to whether royalties or payments out of production are paid to others than to the United States, the amounts so paid, and the efforts made to reduce them. The applicant must also file agreements of the holders to a comparable reduction of all other royalties from the leasehold to an aggregate not in excess of one-half the Government royalties.

#### § 3205.3-8 Application for and effect of suspension of operations and production.

(a) Applications by lessees for suspensions of operations or production, or both, under a producing geothermal lease (or for relief from any drilling or producing requirements of such a lease) shall be filed in triplicate with the Supervisor, who is authorized to act on applications filed pursuant to this section and to terminate suspensions which have been or may be granted. Complete information must be furnished showing the necessity of the relief sought.

(b) A suspension shall take effect as of the time specified in the order of the Supervisor. Rental or minimum royalty payments will be suspended during any period of suspension of all operations and production directed, or assented to, by the Supervisor, beginning with the first day of the lease month in which the suspension of operations and production becomes effective or, if the suspension of operations and production becomes effective on any date other than the first day of a lease month, beginning with the first day of the lease month following such effective date. The suspension of rental or minimum royalty

payments shall end on the first day of the lease month in which operations or production is resumed. Where rentals are creditable against royalties and have been paid in advance, proper credit will be allowed on the next rental or royalty due under the lease.

(c) No lease shall be deemed to expire by reason of a suspension of either operations or production, pursuant to any order or assent of the Supervisor.

(d) If there is a well on the leased premises capable of producing geothermal resources and all operations and production are suspended pursuant to any order of the Supervisor, approval of recommencement of drilling operations will terminate the suspension as to operations but not as to production, and will terminate both the period of suspension of rental and minimum royalty payments provided in paragraph (b) of this section and the period of suspension for which an equivalent extension will be granted. However, as provided in paragraph (c) of this section, the lease will not be deemed to expire so long as the suspension of operations or production remains in effect.

(e) The relief authorized under this section may also be obtained for any leases included within an approved unit or cooperative plan of development and operation.

(f) See 43 CFR 3281.8 for regulations concerning action of the Supervisor on applications filed pursuant to this section.

#### § 3205.3-9 Readjustments.

The rentals and royalties of any geothermal lease may be readjusted at not less than 20-year intervals beginning 35 years after the date geothermal steam is produced as determined by the Supervisor. In the event of any such readjustment neither the rental nor royalty paid during the preceding period shall be increased by more than 50 per centum, and in no event shall the royalty payable exceed 22 1/2 per centum. Each geothermal lease shall provide for such readjustment. The Supervisor will give notice of any proposed readjustment of rental or royalties. Unless the lessee relinquishes the



lease within 30 days after receipt of such notice, he shall conclusively be deemed to have agreed to such terms and conditions. If the lessee files a protest, and no agreement can be reached between the authorized officer and the lessee within a period of 60 days, the lease may be terminated by either party, subject to the provisions of § 3000.4 of this chapter. If the lessee files a protest to the proposed readjusted terms and conditions, the existing terms and conditions will remain in effect until there has been an agreement between the authorized officer and the lessee on the new terms and conditions to be applied to the lease or until the lease is terminated, except payments of any proposed readjusted rentals and royalties must be paid in the timely manner prescribed in these regulations and may be paid under protest. The readjusted terms and conditions will be effective as of the end of the term being adjusted.

§ 3205.4 Rental and minimum royalty liability of lands committed to cooperative or unit plans.

§ 3205.4-1 Prior to production.

All lands within any lease committed to an approved cooperative or unit plan shall at all times prior to production on any of the lands so committed remain subject to rental in accordance with § 3205.3.

§ 3205.4-2 After production.

As soon as production is obtained on or for any lands included in an approved cooperative or unit plan those lands which are included within the participating area of the producing well shall become liable for royalties in accordance with Subpart 3205. All other unutilized lands, shall remain subject to rental in accordance with § 3205.3.

#### Subpart 3206—Lease Bonds

§ 3206.1 Types of bonds and filing.

§ 3206.1-1 Types of bonds.

(a) Bonds shall be either corporate surety bonds or personal bonds except that bonds with individual sureties

may be furnished for the protection of the entryman or owner of the surface rights.

(b) Lease compliance bond. The lessee must furnish, prior to entry on the leased lands, and thereafter maintain a bond of not less than \$10,000 conditioned on compliance with all the terms of the lease.

(c) Protection bond. A lessee will be required, prior to entry on the leased lands, to furnish and maintain a bond of not less than \$5,000 for indemnification for all damages occasioned to persons or property as the result of lease operations.

(38 FR 35082, Dec. 31, 1973, as amended at 41 FR 23380, June 6, 1976)

§ 3206.1-2 Filing of bonds.

A single original copy of the bond on forms approved by the Director must be filed in the proper BLM office as required and directed by the authorized officer. For unit bond forms see 30 CFR Part 271.

(41 FR 23387, June 6, 1976)

§ 3206.2 Termination of period of liability.

The period of liability of any bond will not be terminated until all lease terms and conditions have been fulfilled.

§ 3206.3 Operator's bond.

§ 3206.3-1 Compliance.

An operator, or, if there are more than one for different portions of the lease, each operator may furnish a general lease bond of not less than \$10,000 in his own name as principal on the bond in lieu of the lessee. Where there is more than operator's bond affecting a single lease, each such bond must be conditioned upon compliance with all lease terms for the entire leasehold.

§ 3206.3-2 Approval.

An operator's bond will not be accepted unless the operator holds an operating agreement which has been approved by the Department or has pending an operating agreement in proper condition for approval. The more designation as operator will not suffice.

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§ 3206.3-3 Default.

Where a bond is furnished by an operator, suit may be brought thereon without joining the lessee if he is not a party to the bond.

§ 3206.4 Personal bond or corporate bond.

§ 3206.4-1 Amount.

In lieu of a surety bond, a personal bond in a like amount may be given by the obligor with the deposit as security therefor of negotiable bonds of the United States of a par value equal to the amount specified in the bond.

§ 3206.4-2 Deposit of securities.

Personal bonds must be accompanied by a deposit of negotiable Federal securities in a sum equal at their par value to the amount of the bond and by a proper conveyance to the Secretary of full authority to sell such securities in case of default in the performance of the conditions of the lease bond.

§ 3206.4-3 Qualified corporate sureties.

Treasury lists: A list of companies holding certificates of authority from the Secretary of the Treasury under the Act of July 30, 1947 (6 U.S.C. 6-13), as acceptable sureties on Federal bonds is published in the FEDERAL REGISTER annually.

§ 3206.5 Nationwide bond.

In lieu of bonds required under any of the preceding paragraphs, the holder of leases or of operating agreements approved by the Department or holder of operating rights by virtue of being designated operator or agent by the lessee pending departmental approval of operating agreements may furnish a bond the amount of which must be not less than \$150,000 for full nationwide coverage for all geothermal leases.

§ 3206.6 Statewide bond.

In lieu of any of the bonds required by the preceding paragraphs, the holder of leases or of operating agreements approved by the Department or holder of operating rights by virtue of being designated operator or agent by the lessee pending Departmental approval of operating agreements, may

furnish a statewide bond, applicable to the State in which the leases are situated, the amount of which must be not less than \$50,000.

§ 3206.7 Default.

§ 3206.7-1 Payment by surety.

Where upon a default the surety makes payment to the Government of any indebtedness due under a lease, the face amount of the surety bond and the surety's liability thereunder shall be reduced by the amount of such payment.

§ 3206.7-2 Penalty.

Thereafter, upon penalty of cancellation of all of the leases covered by that bond, the principal shall post a new nationwide bond in the amount of \$150,000 or a new statewide bond in the amount of \$50,000 as the case may be, within 6 months after notice, or within such shorter period as the authorized officer may fix. However, in lieu thereof, the principal may within that time file separate bonds for each lease.

§ 3206.8 Applicability of provisions to existing bonds.

The provisions of these regulations may be made applicable to any old and gas nationwide or statewide bond by filing in the proper BLM office a written consent to that effect and an agreement to be bound by the provisions of this section executed by the principal and surety. Upon receipt thereof the bond will be deemed to be subject to the provisions of these regulations.

(38 FR 35082, Dec. 21, 1973, as amended at 48 FR 17045, Apr. 20, 1983)

#### Subpart 3207—Leases for a Fractional or Future Interest

Source: 47 FR 5004, Feb. 3, 1982, unless otherwise noted.

§ 3207.1 General.

Leases for lands in which the United States owns only a fractional or future interest in geothermal resources may be issued whenever the public interest will be best served thereby. Where the

United States owns both a present and a future interest in the geothermal resources in a tract, these interests may be leased separately or together at the discretion of the authorized officer.

#### § 3207.2 Noncompetitive leases.

##### § 3207.2-1 Qualifications.

Qualifications for noncompetitive lease applicants for either a fractional present or future interest in geothermal resources will be the same as those appearing in Subpart 3202 of this title with the exception that applicants for a lease of a noncompetitive future interest shall own, hold, or control at least 50 percent of the present operating rights in the geothermal resources.

##### § 3207.2-2 Applications.

Applications for a noncompetitive lease for either a fractional present or future interest in geothermal resources owned by the United States shall be filed and adjudicated in accordance with Subpart 3210 of this title except for qualifications in § 3207.2-1 of this title. In addition, such applications shall include:

(a) A statement describing the extent of the applicant's present or future operating rights to the geothermal resources in a tract other than those resources owned by the United States in the lands covered by the application, together with:

(1) A certified abstract of title or certificate of title containing record evidence of the creation of such interest(s) in the geothermal resources (abstracts will be returned to the applicant when final action has been taken on the application), and

(2) A copy of the lease or contract if the applicant has acquired any of the operating rights to the described interest(s).

(b) The name of the Government agency administering the surface lands that must consent before a lease can be issued; or

(c) The name of the agency that may have records establishing ownership of the geothermal resources involved; and

(d) Identification of the project, if any, of which the lands are a part.

##### § 3207.2-3 Leasing.

(a) A lease of a fractional present interest shall contain the same terms and conditions, including the rentals, as are included in leases for lands in which the United States owns the full interest in the geothermal resources. The acreage of the lease shall be chargeable according to § 3201.2 of this title.

(b) A lease of a future Federal geothermal interest shall become effective on the date that the interest in the geothermal resources vests in the United States. The terms and conditions of the lease shall be the same as for a noncompetitive lease of a present interest issued under this part. The acreage in the lease shall become chargeable according to § 3201.2 of this title when the lease becomes effective.

(c) As consideration for the issuance of a lease of a future Federal geothermal interest, the applicant for a noncompetitive lease shall execute an interim agreement on a form approved by the Director, Bureau of Land Management. This agreement shall govern the relationship between the lessee and the United States until the date the lease becomes effective. The agreement shall provide that:

(1) The applicant pay a minimum annual rental of \$1 per acre or fraction thereof until the future interest of the United States becomes possessory; and

(2) When a present interest in geothermal resources is relinquished, terminated, or cancelled, the interim agreement or lease of a future interest on the parcel involved shall be deemed to have been relinquished, terminated, or cancelled in the same manner and to the same degree; and

(3) No assignment of the interim agreement and the lease of a future interest shall be approved without a concurrent transfer, to the same extent and to the same party, of the rights to the present interest in the leased lands.

(d) The authorized officer shall not:

(1) Issue leases requiring consent of a Government agency until the applicant executes stipulations required by the consenting agency.

(2) Issue a lease for the Federal interests in the geothermal resources on a parcel to a person who, with the Federal interest, would control less than 50 percent of all interest in the operating rights to the geothermal resources in a parcel, unless the Secretary determines it is in the public interest to do so.

##### § 3207.3 Competitive leasing.

##### § 3207.3-1 Nominations for leases.

No special form is required for requests or nominations of eligible parcels. Nominations or requests to have leases offered competitively for lands known to contain geothermal resources shall, to the extent possible, include the information required for noncompetitive leases under § 3207.2-2 of this title.

##### § 3207.3-2 Leasing.

(a) Fractional or future interests in geothermal resources owned by the United States in lands situated within a KGRA shall only be available for leasing under the provisions of this subpart and the provisions of Subpart 3220 of this title.

(b) A lease of a future interest will become effective on the date that the interest in the geothermal resources vests in the United States. Its terms and conditions, including rental and royalty payments, shall be the same as for a lease of a present interest issued competitively under Subpart 3220 of this title. The acreage in the lease shall become chargeable according to § 3201.2 of this title when the lease becomes effective.

(c) Prior to the issuance of a lease of a future interest, the highest bona fide bidder shall execute an interim agreement on a form approved by the Director, Bureau of Land Management which will govern the relationship between the lessee and the United States until the date the lease becomes effective. The agreement shall require payment of an annual interim rental at the same rate as specified under the terms of the lease of the future interest.

(d) If the controlling owner or holder of the present rights in an offered tract, is not the high bidder at

the lease sale, such party shall be given an opportunity to meet the highest bona fide bid submitted for the tract. Failure to do so within the time allowed, or failure to submit any bid for the offered tract, shall be considered a waiver of all rights to the competitive lease and the lease shall be awarded to the highest qualified bidder. In the event there are two or more holders of a present interest in an offered tract who have equal rights and are willing to meet the highest bona fide bid on the offered tract, the right to meet the highest bona fide bid shall be determined by a drawing conducted by the authorized officer within 30 days after the bids are opened. These provisions are in addition to the provisions under § 3220.6 of this title.

(e) The authorized officer shall not issue leases requiring consent of a Government agency until the highest bona fide bidder executes stipulations required by the consenting agency.

#### Subpart 3208—[Reserved]

#### Subpart 3209—Geothermal Resources Exploration Operations

##### § 3209.0-1 Purposes.

(a) The regulations in this subpart establish procedures to be followed in conducting exploration operations on the public land for geothermal resources. The regulations in this subpart are not applicable to exploration operations conducted pursuant to a geothermal resources lease.

(b) The rights obtained under this subpart do not include an exclusive right to prospect for geothermal resources on the land described in a Notice of Intent or any preference right to a geothermal resources lease.

##### § 3209.0-2 Objectives.

The regulations in this subpart encourage exploration of the public lands for geothermal resources in a manner that is consistent with the management policy set forth in § 1725.3 of this chapter. No exploration operations will be allowed if the authorized officer determines that such operations would be inconsistent

with that policy. The authorized officer may suspend or terminate exploration operations upon due notice to the operator at any time if he determines that there is non-compliance with the terms and conditions of the Notice of Intent.

#### § 3209.0-5 Definitions.

As used in this subpart:

(a) "Exploration operations" means any activity relating to the search for evidence of geothermal resources which requires physical presence upon public lands and which may result in damage to public lands or resources thereon. It includes, but is not limited to, geophysical operations, drilling of shallow temperature gradient wells, construction of roads and trails, and cross-country transit by vehicle over public lands. It does not include the casual use of public lands for geothermal resources exploration. It does not include core drilling for subsurface geologic information, except drilling of shallow temperature gradient wells, or drilling for geothermal resources; these activities will be authorized only by the issuance of a geothermal resources lease. The regulations in this Subpart, however, are not intended to prevent drilling operations necessary for placing explosive charges for seismic exploration, nor do they affect the exclusive right of a lessee to drill for geothermal resources upon the land subject to his lease.

(b) "Notice of Intent" means a "Notice of Intent and Permit to Conduct Exploration Operations (Geothermal Resources)."

(c) "Public lands" means lands owned by the United States and administered by the Bureau of Land Management. It does not include a retained mineral interest in lands, title to which has passed from the United States.

(d) "Casual use" means activities that involve practices which do not ordinarily lead to any appreciable disturbance or damage to lands, resources, and improvements. For example, activities which do not involve use of heavy equipment or explosives and which do not involve vehicle movement except over established roads and trails are "casual use."

§ 3209.1 Notice of Intent and permit to conduct exploration operations (Geothermal resources).

#### § 3209.1-1 Application.

(a) *Forms and where filed.* Any persons desiring to conduct exploration operations under the regulations of this subpart shall, prior to entry upon the lands, file for approval with the authorized officer for the district in which the public lands are located a Notice of Intent on a form approved by the Director.

(b) *Requirements.* The Notice of Intent will contain the following:

(1) The name and address, including zip code, both of the person, association, or corporation for whom the operations will be conducted and of the person who will be in charge of the actual exploration activities;

(2) A statement that the signers agree that exploration operations will be conducted pursuant to the terms and conditions listed on the approved form;

(3) A brief description of the type of operations which will be undertaken;

(4) A description of the lands to be explored by township;

(5) A map or maps, available from state or Federal sources, showing the lands to be entered or disturbed by the proposed exploration operations; and

(6) The approximate dates of the commencement and termination of exploration operations.

#### § 3209.1-2 Review of Notice of Intent.

The authorized officer will either approve or disapprove a Notice of Intent as promptly as practicable, but in any event within 30 calendar days after the date of the filing of the Notice of Intent. If the authorized officer shall disapprove a Notice of Intent, he shall explain in writing to the applicant the reasons for disapproval.

#### § 3209.2 Exploration operations.

No exploration operations will be conducted on public lands except pursuant to the terms of a Notice of Intent which has been approved by the authorized officer.

#### § 3209.3 Completion of operations.

Upon completion of the exploratory operations, there shall be filed with the authorized officer a "Notice of Completion of Exploration Operations." Within 90 days after the filing of such "Notice of Completion," the authorized officer shall notify the party who had conducted the operations whether all the terms and conditions set out by the regulations in this subpart and in the Notice of Intent have been met, or whether additional measures shall be taken to correct any unacceptable damage to the lands, specifying the nature and extent of such measures.

(38 FR 35082, Dec. 21, 1973, as amended at 48 FR 17045, Apr. 20, 1983)

#### § 3209.4 Bond requirement.

##### § 3209.4-1 General.

(a) Simultaneously with the filing of the Notice of Intent, and before the entry is made on the land, the party or parties filing the Notice of Intent must file with the authorized officer a surety company bond for each exploration operation in the amount of not less than \$5,000, conditioned upon the full and faithful compliance with all of the terms and conditions of the regulations in this subpart and of that Notice of Intent.

(b) A party will be excused from compliance with the requirements of paragraph (a) of this section if he possesses either a nationwide bond in the amount of not less than \$50,000 covering all exploration operations or a statewide bond in the amount of not less than \$25,000 covering all exploration operations in the State in which the lands on which he has filed the Notice of Intent are situated.

##### § 3209.4-2 Riders to existing bond forms.

Holders of nationwide and statewide oil and gas exploration bonds shall be permitted, in lieu of furnishing additional bonds, to amend their bonds to include geothermal resources exploration operations.

#### § 3209.4-3 Termination of period of liability.

The authorized officer will not give his consent to the cancellation of the bond if an individual bond was submitted or to the termination of the period of liability if a State or nationwide bond was submitted, unless and until there has been compliance with all of the terms and conditions of the Notice of Intent. Should the authorized officer fail to notify the party within 90 days from the filing of "Notice of Completion" that all terms and conditions have been complied with or that additional corrective measures must be taken to rehabilitate the land, the period of liability under an individual bond or the period of liability for a particular exploration operation under a State or nationwide bond shall automatically terminate on the 91st day.

### PART 3210—NONCOMPETITIVE LEASES

NOTE: The information collection requirements contained in Part 3210 of Group 3200 have been approved by the Office of Management and Budget under 44 U.S.C. 3607 and assigned clearance number 1004-0038. The information is being collected to allow the authorized officer to determine if lease applicants are qualified to hold geothermal leases. This information will be used in making those determinations. The obligation to respond is required to obtain a benefit.

(48 FR 24368, June 1, 1983)

#### Subpart 3210—Noncompetitive Leases; General

##### Sec.

- 3210.1 Availability of land.
- 3210.2-1 Application.
- 3210.2-2 Submission of applications.
- 3210.2-3 Withdrawal of application.
- 3210.2-4 Amendment to lease.
- 3210.3 Determination of priorities.
- 3210.4 Rejections.

#### Subpart 3210—Noncompetitive Leases; General

AUTHORITY: 84 Stat. 1566, 30 U.S.C. 1001-1025.

SOURCE: 38 FR 35093, Dec. 21, 1973, unless otherwise noted.

**§ 3210.1 Availability of land.**

(a) All lands subject to leasing that are not within a KGRA shall be available for lease application under the provisions of this subpart.

(b) For those particular lands included in canceled, relinquished, expired, or terminated leases, the BLM State Office having jurisdiction shall post a description of such lands on the first working day of a calendar month. Such lands shall then be available for lease applications beginning on the first working day of the calendar month following posting. Applications received prior to the first working day of the month following posting shall be considered filed on that date.

(48 FR 8337, Feb. 14, 1983)

**§ 3210.2-1 Application.**

An application for a lease must be filed on a form approved by the Director in the proper BLM office in duplicate for public lands and in triplicate where acquired lands are involved. The application must be submitted in a sealed envelope marked "Application for lease pursuant to 43 CFR Part 3210". An application will be considered filed when it is received in the proper office during business hours. The application must include a complete and accurate description of the lands applied for, which must include all available lands, including reserved geothermal resources, within a surveyed or protracted section, or, if the lands are neither surveyed or protracted and are described by metes and bounds, all the lands which will be included in a section when the lands are surveyed or protracted.

(38 FR 35093, Dec. 21, 1973, as amended at 48 FR 17045, Apr. 28, 1983; 48 FR 24388, June 1, 1983)

**§ 3210.2-2 Submission of applications.**

Applications for leases under this subpart shall be submitted only during application filing periods. An application filing period shall begin on the first working day of each calendar month and shall end at the close of business on the last working day of that month. No applicant shall file during the same application filing period a second application which

overlaps any of the land covered by his first application. When an application is filed with the authorized officer, the date of filing shall be stamped on the envelope. The envelope containing the application shall remain sealed until the end of the application filing period during which the application is filed. On the first working day following the end of the application filing period all applications shall be opened, and it will be determined which applications are for lands included in a KGRA. In determining whether land included in an application is a KGRA because of competitive interest, no application submitted during any subsequent application filing period will be considered. Applications for land determined to be KGRA will be rejected. All other applications will be assigned priority according to the date of filing. If any application covers both land within a KGRA and land outside a KGRA, the applicant will be granted the opportunity to amend his application to exclude the portion included in a KGRA, and his amended application will be assigned priority according to the date of filing of his original application, but must comply with all other requirements of these regulations.

(38 FR 35093, Dec. 21, 1973, as amended at 48 FR 17045, Apr. 28, 1983)

**§ 3210.2-3 Withdrawal of application.**

An application may not be withdrawn, either in whole or in part, unless the request is received by the proper BLM office before the lease or an amendment of the lease, whichever covers the land described in the withdrawal, has been signed on behalf of the United States even though the effective date of the lease is subsequent to the date of filing of the withdrawal, except where a separate conflicting lease has been signed on behalf of the United States covering the land described in the withdrawal.

**§ 3210.2-4 Amendment to lease.**

If any of the land applied for was open to filing when the application was filed but is omitted from the lease for any reason and thereafter becomes available for noncompetitive leasing,

the original lease will be amended to include the omitted land unless, before the issuance of the amendment, the proper BLM office receives a withdrawal of the lessee's application with respect to such land or such omitted lands have been determined to be within a KGRA. The lease term for the land added by such an amendment shall be the same as if the land had been included in the original lease when it was issued.

**§ 3210.3 Determination of priorities.**

(a) No lease shall be issued before final action has been taken on (1) any prior application to lease the land, (2) any subsequent application to lease the land that is based upon a claimed preferential right, and (3) any petition for the renewal or reinstatement of an existing or former lease on the land.

(b) Where a lease is issued before final action has been taken on such applications and petitions, it shall be canceled, and the advance rental returned, after due notice to the lessee, where the applicant or petitioner is found to be qualified and entitled to receive a lease of the land.

(c) Applications for lease received in the mail or delivered on the same day will be deemed to have been simultaneously filed, and the right of priority and the order of processing will be determined by a public drawing.

(d) Prior to the issuance of any lease, a determination shall be made as to whether or not the lands are within a KGRA. Applications for lands determined to be within any KGRA will be rejected.

**§ 3210.4 Rejections.**

If, after the filing of an application for a noncompetitive lease and before the issuance of a lease, an amendment thereto, pursuant to that application, the land embraced in the application becomes included within a KGRA, the application will be rejected as to such KGRA lands. The authorized officer retains discretion to reject an application for a noncompetitive lease even though the tract for which application is made is not determined to be within a KGRA.

**PART 3220—COMPETITIVE LEASES**

**NOTE:** The information collection requirements contained in Part 3220 of Group 3200 have been approved by the Office of Management and Budget under 44 U.S.C. 3507 and assigned clearance number 1004-0074. The information is being collected to allow the authorized officer to determine the qualified bidder of the highest bonus bid for a competitive lease parcel. This information will be used in making those determinations. The obligation to respond is required to obtain a benefit.

(48 FR 24368, June 1, 1983)

**Subpart 3220—Competitive Leases; General****Sec.****3220.1 General.****3220.2 Publication of notice of lease sale.****3220.3 Contents of notice of lease sale.****3220.4 Bidding requirements.****3220.5 Award of lease.**

**AUTHORITY:** 84 Stat. 1568, 30 U.S.C. 1001-1025.

**Subpart 3220—Competitive Leases; General****§ 3220.1 General.**

(a) Lands within a KGRA, except as provided under § 3201.1 of this chapter, will be available for leasing on the effective date of these regulations.

(b) The authorized officer will accept nominations to lease, or may on his own motion from time to time call for nominations to lease. Nominations may be withdrawn at any time.

(38 FR 35094, Dec. 21, 1973)

**§ 3220.2 Publication of notice of lease sale.**

Where the Secretary determines to offer lands for competitive leasing he will publish a notice of lease sale in a newspaper of general circulation in the area in which the lands to be leased are located once a week for 4 consecutive weeks, or for such other period as he may direct.

(38 FR 35094, Dec. 21, 1973, redesignated at 48 FR 24369, June 1, 1983)

**§ 3220.3 Contents of notice of lease sale.**

(a) The notice will specify the time and place of sale, the manner in which bids may be submitted, the description



of the lands, and the terms and conditions of the sale, including royalty and rental rates.

(b) The notice will indicate the proper BLM office where the terms and conditions under which the lease will be issued are available. The notice will also indicate that the proposed period of operation, as required by § 3210.2-1(d) of this chapter, must be filed before a lease can be issued.

(38 FR 35094, Dec. 21, 1973. Redesignated at 48 FR 24369, June 1, 1983)

#### § 3220.4 Hiding requirements.

(a) A separate identified sealed bid shall be submitted for each lease unit. Each bidder shall submit with the bid a certified or cashier's check, bank draft, money order, or cash in the amount of one-fifth of the amount bid, together with proof of qualifications as required by these regulations. The balance of the bonus bid shall be paid either in a single payment upon the award of the lease or in two equal annual installments due and payable on the next two anniversary dates.

(b) All bidders are warned against violation of the provisions of 18 U.S.C. 1860 prohibiting unlawful combination or intimidation of bidders.

(c) If the lease is terminated by re-liquidation, or for failure to make timely payment of annual rentals or for any other reason, any unpaid installments of the bonus bid shall be immediately due and payable to the lessor.

(44 FR 12039, Mar. 5, 1979. Redesignated at 48 FR 24369, June 1, 1983)

#### § 3220.5 Award of lease.

(a) All sealed bids shall be opened at the place, date, and hour specified in the notice. No bids will be accepted or rejected at that time.

(b) In the event that the Secretary determines to issue a lease, that lease shall be awarded to the highest responsible qualified bidder, except as required under Part 3230 of this chapter.

(c) The right to reject any and all bids is reserved. If the authorized officer fails to accept the highest bid for a lease within 30 days after the date on which the bids are opened (or such

longer period as may be needed to comply with § 3230.1-6 of this chapter), all bids for that lease will be considered rejected. Deposits on rejected bids will be returned.

(d) If the lease is awarded, 3 copies of the lease shall be sent to the successful bidder who shall execute them within 30 days from receipt thereof, pay the first year's rental and file the required bonds. When the three copies of the lease are executed by the successful bidder and returned to the authorized officer, the lease will be executed by the authorized officer and a copy will be mailed to the lessee.

(e) If the successful bidder fails to execute the lease or otherwise comply with the applicable regulations, the deposit will be forfeited and disposed of as provided in section 20 of the Act. In this event, the lands may be reoffered when it is determined, in the opinion of the Secretary, that sufficient interest exists to justify a competitive lease sale.

(44 FR 12039, Mar. 5, 1979, as amended at 48 FR 17045, Apr. 20, 1983. Redesignated at 48 FR 24369, June 1, 1983)

### PART 3240—RULES GOVERNING LEASES

NOTE: The information collection requirements contained in Part 3240 of Group 3200 have been approved by the Office of Management and Budget under 44 U.S.C. 3507 and assigned clearance number 1004-0074. The information being collected to allow the authorized officer to determine if parties obtaining an interest in a lease are qualified to hold such interest. This information will be used in making those determinations. The obligation to respond is required to obtain a benefit.

(48 FR 24369, June 1, 1983)

#### Subpart 3240—Rules Governing Leases— (Reserved)

#### Subpart 3241—Assignments and Transfers

##### Sec.

3241.1 Assignments, transfers, interests, qualifications.

3241.1-1 Record title assignments or transfers of leases or undivided lease interests.

3241.2 Requirements for filing of assignments or transfers.

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##### Sec.

3241.2-1 Place of filing and service charge.

3241.2-2 Number of copies required.

3241.2-3 Time of filing assignments, transfers of leases, or undivided lease interests.

3241.2-4 Forms and statements.

3241.2-5 Description of lands.

3241.3 Bonds.

3241.4 Approval.

3241.5 Continuing responsibility.

3241.6 Production payments.

3241.7 Overriding royalty interests.

3241.7-1 General.

3241.7-2 Limitation of overriding royalties.

3241.8 Lease account status; requirements.

3241.9 Effect of assignment.

#### Subpart 3242—Production and Use of Byproducts

3242.1 General.

3242.2 Production and use of commercially demineralized water as a byproduct, production, and use of other sources of water.

3242.2-1 General.

3242.2-2 Prohibition on production of commercially demineralized water.

3242.2-3 Water wells on geothermal areas.

3242.2-4 State water laws.

#### Subpart 3243—Cooperative Conservation Provisions

3243.1 Cooperative or unit plans.

3243.2 Acreage chargeability.

3243.3 Communitization or drilling agreements.

3243.3-1 Approval.

3243.3-2 Requirements.

3243.4 Operating, drilling, development contracts or a combination for joint operations.

3243.4-1 Approval.

3243.4-2 Requirements.

3243.4-3 Acreage chargeability.

#### Subpart 3244—Terminations and Expirations

3244.1 Reinquishments.

3244.2 Automatic terminations and reinstatements.

3244.2-1 General.

3244.2-2 Exceptions.

3244.3 Cancellation of lease for noncompliance with regulations or lease terms; notice; hearing.

3244.4 Expiration by operation of law.

3244.5 Removal of materials and supplies upon termination of lease.

AUTHORITY: 84 Stat. 1566, 30 U.S.C. 1001-1025.

SOURCE: 38 FR 35097, Dec. 21, 1973, unless otherwise noted.

#### Subpart 3240—Rules Governing Leases—(Reserved)

#### Subpart 3241—Assignments and Transfers

§ 3241.1 Assignments, transfers, interests, qualifications.

§ 3241.1-1 Record title assignments or transfers of leases or undivided lease interests.

(a) The record title of leases may be assigned as to all or part of the leased acreage, except that no assignment will be approved where (1) either the assigned or retained portions created by the assignment would be less than 640 acres, unless the total acreage in the lease being partially assigned includes an irregular subdivision, as provided in § 3203.2 of this chapter in which case the assigned and retained portions may be less than 640 acres by an amount which is smaller than the amount by which the area would be more than 640 acres if the irregular subdivision were added, or (2) an undivided interest is created by assignment of a lease containing less than 640 acres, or (3) where the lease being assigned contains 640 acres or more, and undivided interest of less than 10 percent would be created in the leased acreage. An exception to the minimum acreage provision of this section may be made by the Secretary where he finds such exception is necessary in the interest of conservation of the resources.

(b) A working interest or operating right may be assigned, in accordance with this section. Provided That the assigned interest or right, divided or undivided, vests in the holder only the right to explore, develop and produce geothermal resources from the leased lands to the extent of not less than the interest assigned.

(38 FR 35097, Dec. 21, 1973, as amended at 46 FR 17045, Apr. 20, 1983)

### § 3241.2 Requirements for filing of assignments or transfers.

#### § 3241.2-1 Place of filing and service charge.

A request for approval or validation of any assignment or other instrument of transfer of a lease or interest there in must be filed in the proper BLM office and accompanied by a nonrefundable service charge of \$50. An application request not accompanied by payment of such a service charge will not be accepted for filing.

(38 FR 35097, Dec. 21, 1973, as amended at 48 FR 17045, Apr. 20, 1983)

#### § 3241.2-2 Number of copies required.

Three copies of all instruments of assignment or transfer, and a single copy of any additional information required by § 3202.2 of this chapter relating to citizenship or qualification of corporations and associations, including partnerships, must be filed in the proper BLM office.

#### § 3241.2-3 Time of filing assignments, transfers of leases, or undivided lease interests.

(a) Any assignment or instrument of transfer of a lease or of an interest therein, including an assignment of working interests, operating agreements, and operating rights, must be filed in the proper BLM office for approval within 90 days from the date of execution of that instrument and must contain all of the terms and conditions agreed upon by the parties thereto, together with evidence and statements similar to that required of an applicant under these regulations in this group.

(b) A separate instrument of assignment must be filed in the proper BLM office for each geothermal lease involving transfers of record title. When transfers to the same person, association, including partnerships, or corporation involve more than one geothermal lease, one request for approval and one showing as to the qualifications of the assignee, if requested by the authorized officer, will be sufficient.

(38 FR 35097, Dec. 21, 1973, as amended at 48 FR 24369, June 1, 1983)

### § 3241.2-4 Forms and statements.

A form approved by the Director, or unofficial copies of that form in current use, must be used for transfers and requests for approval referred to in this section and must be filed in duplicate for public lands and in triplicate where acquired lands are involved. The approved form may be used for an assignment which affects a transfer of the record title to all or part of a geothermal lease, but it is not to be used for any other type of transfer. The application for assignment shall be deemed to be approved upon execution by the authorized officer.

#### § 3241.2-5 Description of lands.

Each instrument of transfer must describe the lands involved in the same manner as described in the lease.

#### § 3241.3 Bonds.

Where an assignment does not create separate leases, the assignee, if the assignment so provides, may become a joint principal on the bond with the assignor. Any assignment which does not convey the assignor's record title in all of the lands in the lease must also be accompanied by consent of his surety to remain bound under the bond of record as to the lease retained by said assignor. If the bond, by its terms, does not contain such consent, if a party to the assignment has previously furnished a nationwide or statewide bond, no additional showing by such party is necessary as to the bond requirement.

#### § 3241.4 Approval.

Upon approval, an assignment shall be effective as of the first day of the lease month following the date of filing of the assignment.

#### § 3241.5 Continuing responsibility.

(a) The assignor and his surety will continue to be responsible for the performance of any obligation under the lease until the assignment is approved.

(b) Upon approval, the assignee and his surety shall be responsible for the performance of all lease obligations notwithstanding any terms in the assignment to the contrary.

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### § 3241.6 Production payments.

If payments out of production are reserved, a statement must be submitted stating the details as to the amount, method of payment, and other pertinent items.

### § 3241.7 Overriding royalty interests.

#### § 3241.7-1 General.

(a) Overriding royalty interests in geothermal leases constitute accountable acreage holdings under these regulations.

(b) If an overriding royalty interest is created which is not shown in the instrument of assignment or transfer, a statement must be filed in the proper BLM office describing the interest.

(c) [Reserved]

(d) All assignments of overriding royalty interests must be filed for record in the proper BLM office within 90 days from the date of execution. Such interests will not receive formal approval.

(38 FR 35097, Dec. 21, 1973, as amended at 48 FR 24369, June 1, 1983)

#### § 3241.7-2 Limitation of overriding royalties.

(a) Except as herein provided, an overriding royalty on the value of the output of all geothermal resources, or any of them, at the point of shipment to market may be created by assignment or otherwise: *Provided*, That, (1) the overriding royalty is not for less than one-fourth (¼) of 1 percent of the value of such output, and does not exceed 50 percent of the rate of royalty due to the United States as specified in the geothermal lease, or as reduced pursuant to such lease, and (2) the overriding royalty, when added to overriding royalties previously created, does not exceed the maximum rate established herein.

(b) The creation of an overriding royalty interest that does not conform to the requirements of paragraph (a) of this section shall be deemed a violation of the lease terms, unless the agreement creating overriding royalties provides (1) for a prorated reduction of all overriding royalties so that the aggregate rate of royalties does not exceed the maximum rate established

in paragraph (a) of this section and (2) for the suspension of an overriding royalty during any period when the royalties due to the United States have been suspended pursuant to the terms of the geothermal lease.

#### § 3241.8 Lease account status; requirements.

Unless the lease account is in good financial standing as to the area covered by an assignment at the time the assignment and bond are filed, or is placed in good standing before the assignment is reached for action, the request for approval of the assignment will be denied, and the lease shall be subject to termination in accordance with these regulations.

#### § 3241.9 Effect of assignment.

An assignment of the record title of the complete interest in a portion of the lands in a lease shall segregate the assigned and retained portions into separate and distinct leases. An assignment of an undivided interest in the entire leasehold shall not segregate the lease into separate or distinct leases.

## Subpart 3242—Production and Use of Byproducts

### § 3242.1 General.

Where the Supervisor determines that production, use, or conversion of geothermal steam under a geothermal lease is susceptible of producing a valuable byproduct or byproducts, including commercially demineralized water contained in or derived from such geothermal steam for beneficial use in accordance with applicable State water laws, the authorized officer shall require substantial beneficial production or use thereof, except where he determines that:

(a) Beneficial production or use is not in the interest of conservation of natural resources;

(b) Beneficial production or use would not be economically feasible; or

(c) Beneficial production and use should not be required for other reasons satisfactory to him.

§ 3242.2 Production and use of commercially demineralized water as a byproduct, production, and use of other sources of water.

§ 3242.2-1 General.

Except as provided in these regulations, or the lease, the lessee shall have the right to process fluids, including brine, condensate, and other fluids, which are associated with geothermal steam within lands subject to the geothermal lease for the purpose of developing, producing, and utilizing the commercially demineralized water recovered as a result of such processing.

§ 3242.2-2 Prohibition on production of commercially demineralized water.

The lessee shall not be authorized to engage in the primary production of commercially demineralized water from the produced fluids contained in or derived from geothermal steam referred to in § 3242.2-1, where such use would result in the undue waste of geothermal energy.

§ 3242.2-3 Water wells on geothermal areas.

All leases issued under these regulations shall be subject to the condition that, where the lessee finds only potable water in any well drilled for production of geothermal resources, the Secretary may, when the water is of such quality and quantity as to be valuable and useable for agricultural, domestic, or other purpose, acquire the well with casing installed in the well at the fair market value of the casing.

§ 3242.2-4 State water laws.

Nothing in these regulations shall constitute an express or implied claim or denial on the part of the Federal Government as to its exemption from State water laws.

**Subpart 3243—Cooperative Conservation Provisions**

§ 3243.1 Cooperative or unit plans.

To conserve the natural resources of any geothermal pool, field or like area, more properly, lessees and their representatives may unite with each other

or jointly or separately with others, in collectively adopting and operating under a cooperative or unit plan of development or operation or any geothermal resource area, or any part thereof (whether or not any part of that geothermal resource area is then subject to any cooperative or unit plan of development or operation). Applications to utilize shall be filed with the Supervisor who shall certify whether such plan is necessary or advisable in the public interest. The procedure in obtaining approval of a cooperative or unit plan of development, the provisions for the supervision of the cooperative or unit plan, and a suggested text of an agreement, are contained in 43 CFR Part 3260.

§ 3243.2 Acreage chargeability.

All leases committed to any unit or cooperative plan approved or prescribed by the Supervisor shall be excepted in determining holdings or control for purposes of acreage chargeability. For the extension of leases committed to a unit plan, see Subpart 3263 of this title.

§ 3243.3 Communitization or drilling agreements.

§ 3243.3-1 Approval.

(a) The Supervisor is authorized, when separate tracts under lease cannot be independently developed and operated in conformity with an established well-spacing or well-development program, to approve, or to require lessees to enter into, communitization or drilling agreements providing for the apportionment of production or royalties among the separate tracts of land comprising the drilling or spacing unit for the lease, or any portion thereof, with other lands, whether or not owned by the United States, when in the public interest. Operations or production pursuant to such an agreement shall be deemed to be operations or production as to each lease committed thereto.

(b) Preliminary requests to communitize separate tracts shall be filed in triplicate with the Supervisor.

(c) Executed agreements shall be submitted to the Supervisor in suffi-

cient number to permit retention of five copies after approval.

§ 3243.3-2 Requirements.

The agreement shall describe the separate tracts comprising the drilling or spacing unit, disclose the apportionment of the production or royalties to the several parties and the name of the operator, and shall contain adequate provisions for the protection of the interests of all parties, including the United States. The agreement must be signed by or in behalf of all interested necessary parties and will be effective only after approval by the Supervisor.

§ 3243.4 Operating, drilling, development contracts or a combination for joint operations.

§ 3243.4-1 Approval.

(a) The Secretary may on such conditions as he may prescribe, approve operating, drilling, or development contracts made by one or more geothermal lessees, with one or more persons, associations, including partnerships, or corporations whenever he shall determine that such contracts are required for the conservation of natural resources or in the best interest of the United States.

(b) Contracts submitted for approval under this section should be filed with the Supervisor together with enough copies to permit retention of five copies after approval.

(c) The authority of the Secretary to approve operating, drilling, or development contracts without regard to acreage limitations ordinarily will be exercised only to permit operators to enter into contracts with a number of lessees sufficient to justify operations on a large scale for the discovery, development, production, or transmission, transportation, or utilization of geothermal resources, and to finance the same.

§ 3243.4-2 Requirements.

(a) The contract must be accompanied by a statement showing all the interests held by the contractor in the area or field and the proposed or agreed plan of operation or development of the field. All the contracts

held by the same contractor in the same or field should be submitted for approval at the same time, and full disclosure of the project made. Complete details must be furnished so the Secretary may have facts upon which to make a definite determination in accordance herewith and to prescribe the conditions on which approval of the contracts shall be made.

(b) The application must show a reasonable need for the contract and that it will not result in any concentration of control over the production or sale of geothermal resources which would be inconsistent with the antimonopoly provisions of law.

§ 3243.4-3 Acreage chargeability.

All leases operated under approved operating, drilling or development contracts shall be excepted in determining holdings or control for purposes of acreage chargeability.

**Subpart 3244—Terminations and Expirations**

§ 3244.1 Relinquishment.

(a) A lease, or any legal subdivision of the area covered by such lease, may be relinquished by the record title holder by filing a written relinquishment in triplicate in the proper BLM office, provided the partial relinquishment does not reduce the remaining acreage in the lease to less than 640 acres, except where a departure is occasioned by an irregular subdivision in which case the remaining leased acreage may be less than 640 acres by an amount which is smaller than the amount by which the area would be more than 640 acres if the irregular subdivision were added, and except that the minimum acreage provision of this section may be waived by the Secretary where he finds such exception is justified on the basis of exploratory and development data derived from activity on the leasehold. The relinquishment must:

- (1) Describe the lands to be relinquished as described in the lease;
- (2) Include a statement as to whether the relinquished lands had been disturbed and if so whether they were re-

stored as prescribed by the terms of the lease;

(3) State whether wells had been drilled on the lands and if so whether they had been placed in condition for abandonment; and

(4) Furnish a statement that all moneys due and payable to workmen employed on the leased premises have been paid.

(b) A relinquishment shall take effect on the date it is filed, subject to the continued obligation of the lessee and his surety:

(1) To make payments of all accrued rentals and royalties;

(2) To place all wells on the land to be relinquished in condition for suspension of operations or abandonment;

(3) To restore the surface resources in accordance with all regulations and the terms of the lease; and

(4) To comply with all other environmental stipulations provided for by such regulations or lease. A statement must be furnished that all moneys due and payable to workmen employed on the leased premises have been paid.

#### § 3244.2 Automatic terminations and reinstatements.

##### § 3244.2-1 General.

Except as provided in § 3244.2-2 any lease will automatically terminate by operation of law if the lessee fails to pay the rental on or before the anniversary date of such lease. However, if the time for payment falls upon any day in which the proper office to receive payment is not open, payment received on the next official working day shall be deemed to be timely. The termination of the lease for failure to pay the rental must be noted on the official records of the proper BLM office.

[38 FR 35097, Dec. 21, 1973, as amended at 48 FR 6337, Feb. 14, 1983]

##### § 3244.2-2 Exceptions.

(a) *Nominal deficiency.* If the rental payment due under a lease is paid on or before its anniversary date but the amount of the payment is deficient and the deficiency is nominal, the lease shall not have automatically terminated unless the lessee fails to pay

the deficiency within the period prescribed in a Notice of Deficiency, or by the due date, whichever is later. A deficiency is nominal if it is not more than \$10 or one percentum (1%) of the total payment due, whichever is more. The authorized officer shall send a Notice of Deficiency to the lessee on an approved form. The Notice shall be sent by certified mail, return receipt requested, and shall allow the lessee 15 days from the date of receipt to submit the full balance due to the proper BLM office. If the payment called for in the notice is not made within the time allowed, the lease will have terminated by operation of law as of its anniversary date.

(b) *Reinstatements.* (1) Except as hereinafter provided, the authorized officer may reinstate a lease which has terminated automatically for failure to pay the full amount of rental due on or before the anniversary date. If it is shown to his satisfaction that such failure was either justifiable or not due to a lack of reasonable diligence on the part of the lessee; and a petition for reinstatement, together with the required rental, including any back rental which has accrued from the date of termination of the lease, is filed with the proper BLM office.

(2) The burden of showing that the failure to pay on or before the anniversary date was justifiable or not due to a lack of reasonable diligence will be on the lessee. Reasonable diligence normally requires sending or delivering payments sufficiently in advance of the anniversary date to account for normal delays in the collection, transmittal, and delivery of the payment. The authorized officer may require evidence, such as post office receipts, of the time of sending or delivery of payments.

(3) Under no conditions will a lease be reinstated if (1) a valid lease has been issued prior to the filing of a petition for reinstatement affecting any of the lands covered by the terminated lease, or (2) the interest in the lands has been withdrawn, disposed of, or has otherwise become unavailable for leasing. However, the authorized officer will not issue a new lease for lands covered by a lease which terminated

automatically until 90 days after the date of termination.

(4) *Reinstatement of terminated leases* is discretionary with the Secretary. The basic criterion in accordance with which this discretion will be exercised is whether the Secretary would be willing to issue a lease if a new lease offer for the same land were under consideration.

#### § 3244.3 Cancellation of lease for noncompliance with regulations or lease terms; notice; hearing.

A lease may be canceled by the authorized officer for any violation of these regulations, the regulations in 43 CFR Part 3260, or the lease terms, 30 days after receipt by the lessee of notice from the authorized officer of the violation, unless (a) the violation has been corrected, or (b) the violation is one that cannot be corrected within the notice period and the lessee has in good faith commenced within the notice period to correct the violation and thereafter proceeds diligently to complete the correction. A lessee shall be entitled to a hearing on the matter of any such claimed violation or proposed cancellation of lease if a request for a hearing is made to the authorized officer within the 30-day period after notice. The procedures with respect to notice of such hearing and the conduct thereof, and with respect to appeals from decisions of Administrative Law Judges upon such hearings, shall follow insofar as practicable the procedural rules applicable to hearings and appeals in public lands cases within the jurisdiction of the Board of Land Appeals, Office of Hearings and Appeals, contained in Department Hearings and Appeals Procedures, Part 4 of this title. The period for correction of violation or commencement to correct a violation of regulations or of lease terms, as aforesaid, shall be extended to 30 days after the lessee's receipt of the Administrative Law Judge's decision upon such a hearing if the Administrative Law Judge shall find that a violation exists.

#### § 3244.4 Expiration by operation of law.

Any lease for land on which, or for which under an approved cooperative or unit plan of development or oper-

ation, there is no production in commercial quantities, or a producing well, or actual drilling operations being diligently prosecuted, will expire at the end of its primary term without notice to the lessee. Notation of such expiration need not be made on the official records, but the lands previously covered by that expired lease will be subject to the filing of new applications for leases only as provided in these regulations.

#### § 3244.5 Removal of materials and supplies upon termination of lease.

Upon the expiration of the lease, or the earlier termination thereof pursuant to this subpart, the lessee shall have the privilege at any time within a period of ninety (90) days thereafter of removing from the premises any materials, tools, appliances, machinery, structures, and equipment other than improvements needed for producing wells. Any materials, tools, appliances, machinery, structures, and equipment subject to removal, but not removed within the 90-day period, or any extension thereof that may be granted because of adverse climatic conditions during that period, shall, at the option of the Supervisor, become property of the lessor, but the lessee shall remove any or all such property where so directed by the lessor.

### PART 3250—UTILIZATION OF GEOTHERMAL RESOURCES

*Note:* The information collection requirements contained in Part 3250 have been approved by the Office of Management and Budget under 44 U.S.C. 3507 and assigned clearance number 1004-0063. The information is being collected to allow the authorized officers to determine that the applicant is qualified to hold a utilization license, to enable the authorized officer to complete necessary environmental reviews, and to ensure that a utilization facility is constructed and maintained in compliance with terms and conditions of a license. This information will be used in making that determination, in completing environmental reviews, and in ensuring compliance. The obligation to respond is required to obtain a benefit.

[48 FR 24368, June 1, 1983]



# Subpart 3250—Utilization of Geothermal Resources

## Sec.

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- 3250.0-3 Authority.
- 3250.0-5 Definitions.
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- 3250.1 Applications.
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- 3250.6 Licenses.
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- 3250.6-3 Annual rental.
- 3250.7 Bonds.
- 3250.8 Assignments and transfers.
- 3250.9 Relinquishment, expiration or termination of license.

**AUTHORITY:** Secs. 3 and 24, Geothermal Steam Act of 1970 (30 U.S.C. 1001-1025).

**SOURCE:** 44 FR 20391, Apr. 4, 1979, unless otherwise noted.

## Subpart 3250—Utilization of Geothermal Resources

**NOTE:** The information collection requirements contained in this subpart have been approved by the Office of Management and Budget under 44 U.S.C. 3507 and assigned clearance number 1004-0063. This information is needed to permit the authorized officer to determine if a permit should be granted for use of the public lands for utilization of geothermal resources. The obligation to respond is required to obtain a benefit.

148 FR 17045, Apr. 20, 1983

### § 3250.0-1 Purpose.

The purpose of this subpart is to establish procedures for the utilization of Federal lands under geothermal lease by persons who have purchased or otherwise acquired the production of geothermal steam and geothermal resources.

(44 FR 20391, Apr. 4, 1979, as amended at 48 FR 17045, Apr. 20, 1983)

### § 3250.0-3 Authority.

These regulations are issued pursuant to the Geothermal Steam Act of 1970 (30 U.S.C. 1001-1025) which authorizes the Secretary of the Interior to prescribe rules and regulations for the development, utilization, and conservation of geothermal steam resources, protection of the public interest, prevention of waste, and protection of water quality and other environmental qualities. The right to use lands under geothermal lease for the purpose of utilizing geothermal resources may be exercised only in accordance with these regulations.

(44 FR 20391, Apr. 4, 1979, as amended at 48 FR 17045, Apr. 20, 1983)

### § 3250.0-5 Definitions.

As used in this subpart, the term:

(a) "Licensee" means the individual, partnership, corporation, association, municipality or governmental unit which is authorized to use public lands for the construction of facilities and utilization of geothermal resources pursuant to this subpart.

(b) "Authorized officer" means any employee of the Bureau of Land Management who has been delegated the authority to perform the duties described in this subpart.

(c) "Proper BLM office" means the State office of the Bureau of Land Management which administers the land subject to the geothermal lease.

(d) "Utilization site" means that tract of Federal lands under geothermal lease authorized for utilization of geothermal energy including, but not limited to, substations, switch yards, waste disposal and storage facilities, utility service lines, transmission lines, loading docks, processing plants, greenhouses, gasolint plants, crop dryers and appurtenant structures.

(e) "Joint Utilization Agreement" means the arrangement between the holder of a geothermal resource lease and a third party for utilization of geothermal steam and associated geothermal resources produced from a leasehold, for operation of utilization facilities.

(f) "Federal Geothermal Lease" means a lease issued under the Geothermal Steam Act of 1970 pursuant to the leasing regulations contained in Part 3200 of this title.

(g) "Productive well" means a well capable of producing geothermal steam or geothermal resources in commercial quantities as defined in 43 CFR 3200.0-5 (f) and (g).

144 FR 20391, Apr. 4, 1979, as amended at 48 FR 17045, Apr. 20, 1983

### § 3250.0-6 Policy.

It is the policy of this Department to encourage the development and utilization of geothermal resources leased under the Geothermal Steam Act of 1970 in an environmentally acceptable manner. Granting of a lease carries an implied right to reasonable access and land use for development. The provisions of these regulations shall be applied, however, in order to assure reasonable compatibility of any proposed utilization with other authorized uses and resource values of the land.

144 FR 20391, Apr. 4, 1979, as amended at 48 FR 17045, Apr. 20, 1983

### § 3250.1 Applications.

#### § 3250.1-1 Requirements for application.

Any lessee or any party to a joint utilization agreement or a sales contract who desires a license to use the surface of lands under Federal geothermal lease for construction of utilization facilities, other than as provided in Part 3260 and § 3250.4 of this title, shall file an application with the authorized officer.

(a) An application for a license shall be filed in duplicate in the proper BLM office.

(b) Each application must be accompanied by a non-refundable fee of \$50.

(c) No specific form is required.

(d) Each application shall include:

(1) A description of the land applied for by legal subdivision, section, township and range, or by approved protection surveys, if applicable. If the lands have not been surveyed, the lands shall be described by metes and bounds, giving courses and distances between the successive angle points on the boundary of the tract and connecting by courses and distances to an official corner of the public land surveys or a prominent readily identifiable geographic location. The approximate acreage involved shall be included as part of the description.

(2) A map or maps showing the boundaries of the site and the location and dimensions of buildings, cooling towers or ponds, waste disposal or storage sites, switch yards, roads, pipelines, utility service lines, transmission lines and all other structures or facilities used in connection with the utilization of the geothermal steam and associated geothermal resources. In addition, the authorized officer may require maps showing the general location of proposed facilities to be used in connection with utilization of the geothermal resources but outside the license area.

(3) A description of the proposed facility including pertinent information about any substations included in the facility, indicating whether the proposed facility is to be interconnected with other facilities and whether the energy produced is to be sold to others or used by the applicant.

(4) A copy of any joint utilization agreement or sales contract entered into with a Federal geothermal lessee or lessees and the applicant for the utilization of geothermal steam and associated geothermal resources.

(5) A statement showing the amount of merchantable timber, if any, to be cut, removed or destroyed in the construction of the proposed plant or facility, and a statement of agreement to deposit with the Bureau of Land Management, in advance of construction, the dollar amount as determined by the authorized officer to be the full stumpage value of the timber to be cut, removed or destroyed.

(44 FR 20391, Apr. 4, 1979, as amended at 48 FR 17045, Apr. 20, 1983)

#### § 3250.1-2 Showing of citizenship.

Licenses shall be issued only to citizens of the United States, associations of such citizens, corporations organized under the laws of the United States, any State or the District of Columbia or governmental units, including, without limitation, municipalities,

Applicants shall make showings of citizenship as follows:

(a) Individuals shall furnish a statement of their citizenship.

(b) Associations of individuals, including a partnership, shall furnish a copy of the articles of association, if any. The application must be signed by each member of the association, and be accompanied by a statement of citizenship of each member.

(c) Corporations. (1) A private corporation shall furnish a copy of its charter or articles of incorporation, duly certified by the proper State official of the State where the corporation was organized, and a copy of the resolution or by-laws authorizing the proposed action.

(2) A corporation, other than a private corporation, including a municipality or governmental unit, shall file (i) a statement showing that it is authorized to construct and operate a plant for utilization of geothermal steam or associated geothermal resources; (ii) a statement that the officer executing the application is authorized to act on behalf of the applicant; and (iii) a copy of its governing body's resolution authorizing such action.

(3) When a corporation is operating in a State other than the State in which it was incorporated, it shall submit a certificate of the Secretary of State or other proper official of the State in which it is operating, asserting that the corporation has complied with the laws of that State governing foreign corporations to the extent required to entitle the corporation to operate in such State.

(4) If a corporation has previously filed with the Bureau of Land Management the papers required in this section, the requirements shall be held to be met if, in making a subsequent application, specific reference is made to such previous filing by date, place and case number.

#### § 3250.2 Action on application.

Where the authorized officer determines that an application is incomplete or not in conformity with the law or regulations, he shall notify the applicant of the deficiencies and pro-

vide an opportunity for correction of the deficiency.

#### § 3250.3 Environmental analysis.

The authorized officer shall complete, in a timely manner, any environmental review determined to be necessary to conform with the National Environmental Policy Act of 1969 (42 U.S.C. 4322).

[48 FR 17046, Apr. 20, 1983]

#### § 3250.4 Actions not requiring a license.

##### § 3250.4-1 Research and demonstration projects.

A research and demonstration (R. & D.) project sited on a Federal geothermal lease consisting of a power generating facility of not more than 20 MW's electrical capacity and with a maximum life of five years from the date the facility becomes operational will not require a license under the regulations of this subpart. An R. & D. permit for a facility of 20 MW's or less shall be obtained from the Area Geothermal Supervisor under the provisions of 43 CFR Part 3260. In the event an R. & D. project is proposed to be retained for commercial operation after the initial five-year period, a license shall be obtained under this subpart. Application for such a license may be submitted prior to construction or at any time during the 5 year permitted life period of the R. & D. project if conversion of the facility to a power plant is contemplated during the permit period. R. & D. permits granted under 43 CFR Part 3260 shall conform to the provisions of § 3200.0-8 of this title.

##### § 3250.4-2 Individual well production utilization.

A license shall not be required for the purpose of installing a facility for testing or utilization of the production from an individual well for either electrical power generation or any non-electrical beneficial use. In order to install such facility, a permit shall be obtained from the Area Geothermal Supervisor, U.S. Geological Survey under the provisions of 43 CFR Part 3260. Permits granted under Part 3260 of this subchapter shall conform to the

provisions of § 3200.0-8 of this subchapter. However, a license shall be required for any substation or facility for transmission or lease of more than 10 MW maximum output.

#### § 3250.5 Action required on designated lands.

##### § 3250.5-1 Withdrawn or reserved lands.

(a) Where the land sought for utilization facilities for geothermal steam or associated geothermal resources is withdrawn or reserved for the use of a Federal Agency other than Interior, the authorized officer shall consult with such other agency before the license is issued. The license shall include any terms and conditions required by the surface managing agency.

(b) Where the land sought for utilization facilities for geothermal resources is withdrawn or reserved for the use of an Interior agency, the authorized officer shall consult with such agency before the license is issued. The license shall include any terms and conditions deemed appropriate by the authorized officer.

[44 FR 20391, Apr. 4, 1979, as amended at 48 FR 17046, Apr. 20, 1983]

##### § 3250.5-2 Lands under the jurisdiction of the Forest Service.

Where the land sought for utilization facilities for geothermal resources is on any National Forest System lands, the authorized officer shall consult with and obtain the agreement of the Forest Service regarding the specific site selection before the license is issued. The license shall include terms and conditions required by the Forest Service for protection of National Forest resources and for multi-use management.

[44 FR 20391, Apr. 4, 1979, as amended at 48 FR 17046, Apr. 20, 1983]

##### § 3250.5-3 Lands subject to section 24 of the Federal Power Act.

Where the land sought for a power plant site utilizing geothermal steam or associated geothermal resources is subject to the provisions of section 24 of the Federal Power Act, as amended (16 U.S.C. 818), the license shall be

issued subject to such terms and conditions as the Federal Energy Regulatory Commission, Department of Energy, may prescribe.

#### § 3250.5-4 Lands not subject to license.

No license shall be issued for lands which are not subject to leasing for development of geothermal resources, including, but not limited to, lands:

(a) Administered as part of the national park system;

(b) Within a national recreation system;

(c) Within a fish hatchery administered by the Secretary, wildlife refuge, wildlife range, game range, wildlife management area, waterfowl production area, or for lands acquired or reserved for the protection and conservation of fish and wildlife that are threatened with extinction, or which are designated as rare and endangered species by the Secretary, or under active consideration for inclusion in such categories as evidenced by the filing of an application for a withdrawal or a proposed withdrawal; or

(d) Held in trust or restricted status for an Indian tribe or individual, within or without the boundaries of an Indian reservation.

#### § 3250.6 Licenses.

##### § 3250.6-1 Area covered by license.

(a) The area approved for the proposed utilization site shall be reasonably compact as determined by the authorized officer and shall be limited to as much of the surface of the lands applied for as the authorized officer determined necessary for the adequate utilization of the geothermal resources.

(b) Prior to commencing any surface disturbance activities related to the construction of a utilization facility licensed under provisions of this group, a permit to construct a utilization facility shall be obtained from the Supervisor. The application for such permit shall be filed in triplicate under the regulations in 43 CFR Part 3260.

[48 FR 17046, Apr. 20, 1983]

## § 3250.6-2 License provisions.

(a) A license for a utilization facility shall be granted for a primary term of 30 years with a preferential right to a renewal of such license under such terms and conditions as the Secretary may deem appropriate.

(b) A license shall include such terms and conditions as the authorized officer determines are necessary to protect the mineral, environmental, fish and wildlife, historical and scenic or other resource values of the public lands.

(c) A license shall require a copy of any utility commission license or other Federal, State or local license or permit that is applicable to the proposed utilization facility to be furnished prior to commencement of any activity relating to plant operation.

[44 FR 20931, Apr. 4, 1979, as amended at 48 FR 17046, Apr. 20, 1983]

## § 3250.6-3 Annual rental.

Rental at a rate to be determined by the authorized officer shall be paid annually, but said rental shall not be less than \$100 per acre if the utilization facility is for electrical generation, or not less than \$10 per acre if the utilization facility is for non-electrical purposes. The first year's rental shall be paid to the authorized officer before issuance of the license and thereafter the rental shall be payable annually on or before the anniversary date of the license. The license shall provide that, beginning with the tenth year, the rental for the lands embraced in the license shall be reassessed, excluding improvements due to development of the geothermal resource, at the discretion of the authorized officer upon notice to the licensee, but not more often than at 10 year intervals thereafter, except in extraordinary circumstances.

[44 FR 20931, Apr. 4, 1979, as amended at 48 FR 17046, Apr. 20, 1983]

## § 3250.7 Bonds.

Bonds shall be either corporate surety bonds or personal bonds.

(a) **Surety bond.** The licensee of an electrical generating facility shall furnish and maintain a surety bond of not less than \$100,000, conditioned

upon compliance with all the terms and conditions of the license. The licensee for a non-electrical utilization facility may be required to furnish a surety bond in an amount specified by the authorized officer. The authorized officer may determine not to require a surety bond in circumstances where it is determined that the non-electrical uses have a low potential for causing damage to the environment.

(b) **Personal bond.** In lieu of a surety bond, the licensee may submit a personal bond accompanied by cash in an amount equal to the dollar amount of the bond or negotiable securities of the United States having a market value at the time of the deposit of not less than the required dollar amount of the bond.

(c) **Obligations under bond.** The licensee shall comply with all the terms and conditions of the license under this subpart and shall be:

(1) Liable for all damages to the lands or property of the United States caused by the licensee or his employees or contractors or employees of such contractors; and

(2) Indemnify the United States against any liability for damages or injury to life, person or property arising from the occupancy or use of the lands under license. Where a utilization facility license is granted under this subpart to a State or other governmental agency which does not have the authority to assume such liability with respect to damages caused by it to lands or property, such agency shall be responsible for repair or all such damages.

[44 FR 20301, Apr. 4, 1979, as amended at 48 FR 17046, Apr. 20, 1983]

## § 3250.8 Assignments and transfers.

(a) Any proposed transfers in whole or in part of any right, title or interest in the plant or facility licensed under this subpart must be filed with the authorized officer. The application for transfer must be accompanied by the same showing of qualifications of the transferee as is required of the applicant under this subpart and must be supported by a stipulation that the assignee will comply with and be bound by all the terms and conditions of the

license. No transfer will be valid unless and until it is approved in writing by the authorized officer.

(b) An application for approval of an assignment or transfer made pursuant to this section shall be accompanied by a non-refundable fee of \$50.

## § 3250.9 Relinquishment, expiration, or termination of license.

(a) A licensee may surrender a license by filing a written relinquishment, in triplicate, in the proper BLM office. The relinquishment shall include a statement as to whether the land covered by the license has been disturbed and, if so, whether it has been restored as prescribed by the terms and conditions of the license. The relinquishment will not be accepted until the requirements for reclamation of the land have been met.

(b) A license issued under this part may be terminated by written order of the authorized officer for any violation of any applicable regulation or any license term or condition, after 30 days notice. However, the termination shall not take effect if within the 30 day notice period either (1) the violation is corrected or (2) the licensee has commenced in good faith to correct the violation and shall thereafter proceed diligently to correct the violation where the violation is such that it cannot be corrected within the notice period. If a request for appeal is filed within the 30 day notice period, then the licensee shall be entitled to a hearing on the claimed violation and the termination in accordance with Part 4 of this title. In the event such appeal is timely filed, the period for commencement to correct such violation shall be extended to 30 days after a final decision is rendered if it is found that a violation exists.

(c) Upon the relinquishment, expiration, or termination of the license, the licensee shall, if directed by the authorized officer, remove all structures, machinery, and other equipment from the land covered by the license. Any structures, machinery, or equipment allowed to remain on the land shall become the property of the United States on the expiration of the period allowed for removal of same. Removal

of such property shall be at the licensee's expense.

(d) The licensee shall, for a period of not more than six months, maintain any equipment and facilities needed as determined by the Area Geothermal Supervisor, for the protection of any wells from which production was being utilized by the licensee.

(e) Where land covered by a license has been disturbed, the licensee shall within one year following the relinquishment, expiration, or termination of a license issued under this part restore the land in accordance with the terms and conditions of the license. Additional time may be granted by the authorized officer upon a showing of good cause by the licensee. The bond required by § 3250.7 of this title shall not be released until the reclamation has been completed to the satisfaction of the authorized officer.

## PART 3260—GEOTHERMAL RESOURCES OPERATIONS

**NOTE 1:** (a) The information collection requirement contained in § 3262.4 is needed to document planned operations on geothermal leases. This information will be used to evaluate technical feasibility and environmental impacts of geothermal operations on Federal lands. The obligation to respond is mandatory. Clearance under 44 U.S.C. 3507 is not required by 44 U.S.C. 3506(c)(5).

(b) The information collection requirement contained in § 3264.3 has been approved by the Office of Management and Budget under 44 U.S.C. 3507 and assigned clearance number 1028-0040. The information being collected to document exploration expenditures for which diligence credit is desired. This information will be used to determine if expenditures qualify as diligent exploration under 42 U.S.C. 3203.5. The obligation to respond is required to obtain a benefit.

[47 FR 24130, June 3, 1982. Redesignated at 48 FR 44788, Sept. 30, 1983]

**NOTE 2:** The information collection requirements contained in Part 3260 have been approved by the Office of Management and Budget under 44 U.S.C. 3507 and assigned clearance numbers 1004-0132 and 1004-0141. The information is being collected to evaluate the technical feasibility and environmental impacts of geothermal operations on Federal lands. Clearance number 1004-0141 covers information required by

§ 3260.3 and is required to document exploration expenditures for which diligence credit is desired in accordance with § 3260.5. A response is required to obtain a benefit. (46 FR 47488, Sept. 30, 1983)

**Note 3:** There are many leases and agreements currently in effect, and which will remain in effect, involving Federal geothermal resources leases which specifically refer to the United States Geological Survey, USGS, Minerals Management Service, MMS, or Conservation Division. These leases and agreements may also specifically refer to various officers such as Supervisor, Conservation Manager, Deputy Conservation Manager, Minerals Manager, and Deputy Minerals Manager. In addition, many leases and agreements specifically refer to Title 30 CFR Part 270 or specific sections thereof. Those references must now be read in the context of Secretarial Order 2087 and now mean either the Bureau of Land Management or the Minerals Management Service as appropriate. (46 FR 47488, Sept. 30, 1983)

#### Subpart 3260—Geothermal Resources Operations—General

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- 3263.1 Measurement of geothermal resources.  
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#### Subpart 3264—Reports To Be Made by All Lessees

- 3264.1 General requirements.  
3264.2 Applications for permits to drill, re-drill, deepen, or plug-back.  
3264.2-1 Application for utilization permit.  
3264.2-2 Sundry notices and reports on wells.  
3264.2-3 Log and history of well.  
3264.2-4 Monthly report of operations.  
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3264.3 Report of expenditures for diligent exploration operations.  
3264.4 Notice of intent and permit to conduct exploration operations.  
3264.5 Public inspection of records.

#### Subpart 3265—Procedure in Case of Violation of the Regulations or Lease Terms

- 3265.1 Noncompliance with regulations or lease terms.

#### Subpart 3266—Appeals

- 3266.1 Appeals.

**AUTHORITY:** Geothermal Steam Act as amended (30 U.S.C. 1001-1025) and Order No. 3087 dated Dec. 3, 1982, as amended on Feb. 7, 1983 (46 FR 8983).

**SOURCE:** 38 FR 35068, Dec. 21, 1973, unless otherwise noted. Redesignated at 46 FR 47466, Sept. 30, 1983.

#### EDITORIAL NOTES:

**NOTE 1:** See Redesignation Table No. 3 appearing in the Finding Aids section of this volume.

**NOTE 2:** Nomenclature changes to this part appear at 47 FR 26370, June 30, 1982; 46 FR 44769-44792, Sept. 30, 1983.

#### Subpart 3260—Geothermal Resources Operations—General

##### § 3260.0-1 Purpose.

The Geothermal Steam Act (30 U.S.C. 1001-1025) authorizes the Secretary of the Interior to prescribe rules and regulations applicable to operations conducted under leases granted pursuant to that Act, and for the development, conservation and utilization of geothermal steam and associated geothermal resources, the prevention of waste, the protection of the public interest and the protection of water quality and other environmental qualities.

(46 FR 47488, Sept. 30, 1983)

##### § 3260.0-2 Policy.

The regulations in this part shall be administered by the Director, Bureau of Land Management.

(46 FR 47488, Sept. 30, 1983)

##### § 3260.0-3 Authority.

These regulations are issued under the authority of the Geothermal Steam Act, as amended (30 U.S.C. 1001-1025) and Order Number 3087, dated December 3, 1982, as amended on February 7, 1983 (46 FR 8983), under which the Secretary assigned and transferred the onshore minerals management functions of the Department, except mineral revenue functions and the leasing of restricted Indian lands, to the Bureau of Land Management.

(46 FR 47488, Sept. 30, 1983)

##### § 3260.0-5 Definitions.

As used in the regulations in this part, the term:

(a) "Lessee" means the individual, corporation, association, or municipality to which a geothermal lease has been issued and its successor in interest, or assignee. It also means any agent of the lessee or an operator holding authority by or through the lessee.

(b) "Operator" means the individual, corporation, or association having control or management of operations on the leased lands or a portion thereof. The operator may be the lessee, design-

nated operator, or agent of the lessee, or holder of rights under an approved operating agreement.

(c) "Waste" means (1) physical waste, as that term is generally understood; (2) waste of reservoir energy through inefficiency, improper use of or unnecessary dissipation of reservoir energy; (3) the location, spacing, drilling, equipping, operating, or producing of any geothermal well or wells in a manner which causes or tends to cause reduction in the quantity of geothermal energy ultimately recoverable from a reservoir under prudent and workmanlike operations or which tends to cause unnecessary or excessive surface or subsurface loss or destruction of geothermal energy; and (4) the inefficient transmission of geothermal energy from the source (well-head) to point of utilization.

(d) "Directionally drilled well" means the deviation of a well bore from the vertical or from its normal course in an intended predetermined direction or course with respect to the points of the compass. Directionally drilled well shall not include a well deviated for the purpose of straightening a hole that has become crooked in the normal course of drilling or holes deviated at random without regard to compass direction in an attempt to sidetrack a portion of the hole on account of mechanical difficulty in drilling.

(e) "Geothermal resources operational order" or "GRO order" means a formal numbered order, issued by the authorized officer, with the prior approval of the Director, which implements the regulations in this part and applies to operations in an area, region, or any significant portion thereof.

(f) "Producible well" means a well which is capable of producing geothermal resources in commercial quantities.

(g) "Commercial quantities" means quantities sufficient to provide a return after all variable costs of production have been met.

(h) "Exploration operations" means any activities relating to the search for evidence of geothermal resources, which require physical presence upon the leased lands and which may result in damage to the leased lands or the



resources contained within. It includes, but is not limited to, geophysical operations, drilling and coring of shallow temperature gradient wells, construction of roads and trails, and cross-country transit by vehicle. It does not include casual use activities associated with geothermal resources exploration. In addition, it does not include core drilling to obtain subsurface geologic information, except in conjunction with the drilling of shallow temperature gradient wells, nor does it include the drilling for, the testing of, or the production of geothermal resources. However, these limitations do not preclude the drilling of holes necessary for the emplacement of explosive charges for certain geophysical operations nor do they affect the exclusive right of a lessee to drill for, test, or produce the geothermal resources on lands subject to his lease.

(i) "Casual use" means those activities related to exploration operations which are limited to those practices that ordinarily do not involve any appreciable disturbance or damage to the leased lands, its resources, or improvements thereon. For example, activities which do not involve the use of heavy equipment or explosives or which do not involve vehicular movement except over established roads and trails will be considered as casual use activities.

(j) "Individual Production Well Facility" means a facility located on a Federal geothermal lease that utilizes geothermal resources from a single well for electrical power generation or for nonelectrical purposes and which has an output of not more than 10-megawatt net capacity or heat energy equivalent.

(k) "Research and Demonstration Facility," means a facility located on a Federal geothermal lease which: (1) Utilizes geothermal resources from one or more wells, (2) has an output of not more than 20-megawatt net capacity or heat energy equivalent, and (3) will be utilized exclusively for the research and demonstration of applications for the utilization of geothermal resources during an initial project life of not more than 5 years from the date the facility becomes operational.

(l) "Plant Facility" means a facility located on a Federal geothermal lease, other than an Individual Well Production Facility or a Research and Development Facility, that utilizes geothermal resources for electric power generation or nonelectric purposes.

(m) "Utilization Facility Site" means that portion of an area of operations for which a plan of utilization, filed pursuant to § 270.34-1 of this part, has been approved for the siting of an Individual Production Well Facility, a Research and Demonstration Facility, or a Plant Facility, including appurtenant structures.

(n) "Facility Operator" means the lessee, licensee, or the individual, corporation, association, or municipality designated by a lessee or licensee as the operator of any facility on a Federal geothermal lease for the beneficial utilization of geothermal resources.

(o) "Joint Facility Operating Agreement" means an agreement between a lessee or licensee and another party for the siting, construction, and operation of facilities for the utilization of the geothermal resources produced from a Federal geothermal lease or leases.

(43 FR 13933, Mar. 31, 1978, as amended at 44 FR 37598, July 27, 1979; 47 FR 28370, June 30, 1982. Redesignated and amended at 48 FR 44788, 44789, Sept. 30, 1983)

### Subpart 3261—Jurisdiction and Responsibility

#### § 3261.1 Jurisdiction.

Drilling, production, construction, and operation of any facility for the utilization of geothermal resources and handling and measurement of production, and, in general, all operations conducted on a geothermal lease are subject to the regulations in this group. These operations are subject to the jurisdiction of the authorized officer for the area in which the leased lands are situated.

(48 FR 44789, Sept. 30, 1983)

### Bureau of Land Management, Interior

#### § 3261.2 Responsibility of authorized officer.

The authorized officer is authorized and directed to carry out the provisions of this part. The authorized officer shall require compliance with the terms of geothermal leases, with the regulations in this group and with the applicable statutes. The authorized officer shall act on all applications, requests, and notices required in this part. In executing the functions under this part, the authorized officer shall ensure that all permitted operations conform to the best practice and are conducted in a manner that protects the deposits of the leased lands and results in the maximum ultimate recovery and the beneficial utilization of geothermal resources, with minimum waste. The authorized officer shall also ensure that all permitted operations are consistent with the principles of the use of the lands for other purposes and the protection of the environment. As conditions in one area may vary widely from conditions in another area, the regulations in this part are intended to be general in nature. Detailed procedures hereunder in any particular area will be covered by GRO Orders. The requirements to be set forth in GRO Orders relating to surface resources or uses will be coordinated with the appropriate land management agency if other than BLM. The authorized officer may issue oral orders to govern lease operations, but such orders shall be confirmed in writing by the authorized officer as promptly as possible. The authorized officer may issue other orders and instructions to govern the development, method for production and the utilization of a deposit, field or area. Prior to issuance of GRO Orders, other written orders and instructions, or the approval of any plan of operation, the authorized officer shall consult with and receive comments from appropriate Federal and State agencies, lessees, operators and other interested parties. Before permitting operations to be commenced on the leased lands, the authorized officer shall determine if the lease is in good standing; whether the applicant is authorized to conduct the proposed operations; has filed an acceptable bond,

and has, when required by the regulations in this part, an approved plan of operations and/or plan of utilization, notice of intent, Sundry Notice or other appropriate permit.

(48 FR 44789, Sept. 30, 1983)

#### § 3261.3 Regulation of operations.

(a)(1) All operations performed under this part shall be conducted so as to:

- (i) Prevent the unnecessary waste of or damage to geothermal or other resources;
- (ii) Protect the quality of surface and subsurface waters, air, and other natural resources, including wildlife, soil, vegetation, and natural history;
- (iii) Protect the quality of valuable cultural resources, including archeological, historical, scenic and recreational resources;
- (iv) Accommodate, as much as possible, other land uses;
- (v) Protect human and wildlife resources from harmful levels of noise;
- (vi) Prevent injury to life; and
- (vii) Prevent damage to property, particularly from subsidence.

(2) The authorized officer shall inspect and supervise all operations under this part to ensure that the requirements of paragraph (a)(1) of this section are fulfilled, and shall issue such GRO Orders as are necessary to discharge this responsibility.

(3) GRO Orders shall be enforceable under § 3265.1 of this title.

(b) The authorized officer, through coordination with appropriate Federal surface managing agencies and in cooperation with other concerned Federal, State, and local agencies, shall prepare an environmental assessment in connection with any and all plans submitted to the authorized officer pursuant to § 3262.4-1 of this title.

(1) The environmental assessment shall include a description of the proposed action, an evaluation of the potential impact of the proposed action on the affected area, a discussion of alternatives to the proposed action, and a description of the mitigating measures that will be applied to eliminate or reduce adverse impacts. The environmental assessment shall also include a statement of reasons as to

whether or not an environmental impact statement (EIS) is required.

(2) The authorized officer shall determine whether or not an environmental impact statement is required, based upon the findings and conclusions of the environmental assessment. If an environmental impact statement is required, it shall be prepared in accordance with the provisions of 40 CFR Group 1500.

(3) The environmental assessment shall be considered by the authorized officer in determining the appropriate terms and conditions for approval of the submitted plan.

(4) A copy of an environmental assessment completed under this section shall be submitted to the Geothermal Environmental Advisory Panel. All documents comprising such an assessment shall be made available for review to interested parties with the exception of those data which are subject to the provisions of § 3264.5 of this title. Upon completion of an environmental assessment, the authorized officer shall take such measures as are appropriate to notify appropriate Federal, State, and local agencies, and the public, of the availability of the assessment for review.

[44 FR 37589, June 27, 1979. Redesignated and amended at 48 FR 44788, 44789, Sept. 30, 1983]

#### § 3261.4 Required samples, tests, and surveys.

When necessary or advisable, the authorized officer shall require that adequate samples be taken and tests or surveys be made using acceptable techniques, without cost to the lessor, to determine the identity and character of formations; the presence of geothermal resources, water, or reservoir energy; the quantity and quality of geothermal resources, water or reservoir energy; the amount and direction of deviation of any well from the vertical; formation, casing, and tubing pressures, temperatures, rate of heat and fluid flow, and whether operations are conducted in a manner looking to the protection of the interests of the lessor.

#### § 3261.5 Drilling and abandonment of wells.

The authorized officer shall require that drilling be conducted in accordance with the terms of the lease, GRO orders, and the regulations in this group; and shall require plugging and abandonment of any well or wells no longer necessary for operations in accordance with plans approved or prescribed by him. Upon the failure of a lessee to comply with any requirement under this section, the authorized officer is authorized to perform the work at the expense of the lessee and the surety.

[38 FR 35068, Dec. 21, 1973. Redesignated and amended at 48 FR 44788, 44789, Sept. 30, 1983]

#### § 3261.6 Well spacing and well casing.

The authorized officer shall approve proposed well-spacing and well-casing programs or prescribe such modifications to the programs as he determines necessary for proper development, giving consideration to such factors as:

- (a) Topographic characteristics of the area;
- (b) Hydrologic, geologic and reservoir characteristics of the field;
- (c) The number of wells that can be economically drilled to provide the necessary volume of geothermal resources for the intended use;
- (d) Protection of correlative rights;
- (e) Minimizing well interference;
- (f) Unreasonable interference with multiple use of lands; and
- (g) Protection of the environment, including ground water quality.

#### § 3261.7 Values and payment for losses.

The authorized officer shall determine the value of production accruing to the lessor where there is loss through waste or failure to drill and produce protection wells on the lease, and the compensation due to the lessor as reimbursement for such loss. Payment for such losses will be paid when billed.

#### § 3261.8 Suspension of operations and production.

(a) On receipt of an application filed in accordance with 43 CFR 3205.3-8

for suspension of operations or production, or both, under a producing geothermal lease (or for relief from any drilling or producing requirements of such a lease), the authorized officer may, if he deems the suspension or relief warranted, approve the application.

(b) In the interest of conservation, the authorized officer may, on his own motion, suspend operations or production, or both, on any geothermal lease.

(c) Where operations or production, or both, under a lease, have been suspended, the authorized officer may approve resumption of operations or production either on his own motion or upon written request by the lessee or his agent.

(d) Whenever it appears from facts adduced by or furnished to the authorized officer that the interest of the lessor requires additional drilling or producing operations, he may, by written notice, order the beginning or resumption of such operations.

(e) See 43 CFR 3205.3-7 and 3205.3-8 for regulations concerning requests to waive, suspend, or reduce payments of rental or royalty, and extensions of leases on which operations or production have been suspended.

### Subpart 3262—Requirements for Lessees

#### § 3262.1 Lease terms, regulations, waste, damage, and safety.

(a) The lessee shall comply with the lease terms, lease stipulations, applicable laws and regulations and any amendments thereof, GRO orders, and other written or oral orders of the authorized officer. All oral orders to be confirmed in writing as provided in § 3261.2 of this title are effective when issued unless otherwise specified.

(b) The lessee shall take all reasonable precautions to prevent: (1) Waste; (2) damage to any natural resource including trees and other vegetation, fish and wildlife and their habitat; (3) injury or damage to persons, real or personal property; and (4) any environmental pollution or damage.

(c) Any significant effect on the environment created by the lessee's operations or failure to comply with environmental standards shall be reported

to the authorized officer within 24 hours and confirmed in writing within 30 days.

#### § 3262.2 Designation of operator or agent.

(a) In all cases where operations are not conducted by the lessee but are to be conducted under authority of an unapproved operating agreement, assignment or other arrangement, a "designation of operator" shall be submitted to the authorized officer, in a manner and form approved by him, prior to commencement of operations. Such a designation will be accepted as authority of the operator or his local representative to act for the lessee and to sign any papers or reports required under the regulations in this part. All changes of address and any termination of the authority of the operator shall be immediately reported, in writing, to the authorized officer.

(b) In all cases where an individual production well facility, research and demonstration facility, or plant facility is to be operated by a party other than the lessee or licensee, the lessee or licensee shall, for each such proposed facility, submit, in triplicate to the authorized officer in a manner or in a form approved by the authorized officer, a "designation of facility operator" and three copies of the joint facility operating agreement between the lessee or licensee and the facility operator. Such designation, upon acceptance by the authorized officer, will authorize the facility operator to enter upon the proposed facility site and related sites and to conduct thereon, in accordance with § 3262.4-1 of this title, such preliminary geologic and soil studies as are appropriate for the planning and design of the facilities necessary for the utilization of geothermal resources in the manner proposed. A designated operator may also construct and operate such facilities as have been approved under a plan of operation or utilization and for which a permit has been issued pursuant to the regulations in this part and if a plant facility, for which a license has been issued in accordance with the regulations in this group.

[38 FR 35068, Dec. 21, 1973, as amended at 48 FR 37589, June 27, 1979. Redesignated

and amended at 48 FR 44788, 44789, Sept. 30, 1983]

#### § 3262.2-1 Local agent.

When required by the authorized officer, the lessee shall designate a local representative empowered to receive notices and comply with orders of the authorized officer issued pursuant to the regulations in this part.

#### § 3262.3 Drilling and producing obligations.

(a) The lessee shall diligently drill and produce such wells as are necessary to protect the lessor from loss by reason of production on other properties, or in lieu thereof, with the consent of the authorized officer, shall pay a sum determined by the authorized officer as adequate to compensate the lessor for failure to drill and produce any such well.

(b) The lessee shall promptly drill and produce such other wells as the authorized officer may require in order that the lease be developed and produced in accordance with good operating practices. (See § 3203.8 of this title.)

#### § 3262.4 Plan of operation.

Except as otherwise provided in these regulations, a lessee, prior to commencing operations on the leased land or on lands subject to an approved unit or cooperative agreement, shall obtain the approval of a plan of operation by the authorized officer. A plan of operation is not required for: Subsequent well operations, the construction of new production facilities, or the alteration of existing production facilities, unless specifically required by the authorized officer, exploration operations or casual use activities. However, unless a previously approved plan included a specific authorization for subsequent well operations, construction of new production facilities, alteration of existing production facilities or exploration operations, the lessee may not conduct such operations or activities without the authorized officer's prior approval. Before commencing a subsequent well operation, the construction of a new production facility or the alteration of an existing production facility, the

lessee shall, as a minimum, obtain the authorized officer's approval of a permit or of a sundry notice, whichever is appropriate. Before commencing exploration operations, the lessee shall obtain the authorized officer's approval of a notice of intent. When a plan of operation is required by the regulations in this part, it shall be filed in triplicate with the authorized officer and shall include:

(a) The proposed location of each well, including a layout showing the position of the mud tanks, reserve pits, cooling towers, pipe racks, and other surface facilities;

(b) Existing and planned access and lateral roads;

(c) Location and source of authorized water supply and road building material;

(d) Location of camp sites, airstrips, and other support facilities;

(e) Other areas of potential surface disturbance;

(f) The topographic features of the land and the drainage patterns;

(g) Methods for disposing of waste material;

(h) A narrative statement describing the proposed measures to be taken in conducting the proposed operation for the protection of the environment, including, but not limited to, the prevention or control of (1) fires, (2) soil erosion, (3) pollution of the surface and ground water, (4) damage to fish and wildlife or other natural resources, (5) air and noise pollution, and (6) hazards to public health and safety;

(i) All pertinent information or data which the authorized officer may require for proper and timely consideration of the plan of operation for the exploration, development, or utilization of geothermal resources and the protection of the environment;

(j) Provisions for monitoring to ensure that operations under the plan are conducted in compliance with the applicable regulations and GEO orders; and

(k) Provisions for collecting data concerning the existing air and water quality, noise, seismic and subsidence activities, and ecological systems of the leased lands for a period of at least 1 year prior to production with some

of the collection to be continued during production and abandonment.

The authorized officer may reduce the data collection requirements of paragraph (k) of this section, including the duration of data collection, commensurate with the level of potential environmental impacts from proposed projects. The information required for paragraphs (a) through (f) of this section may be shown on a map or maps available from State or Federal sources, provided that the scale of such map(s) is acceptable to the authorized officer. All documents submitted to the authorized officer as part of or in support of a plan of operation shall be made available to interested parties for review, with the exception of those data which are subject to the provisions of § 3264.5 of this title. Upon receipt of any plan of operation, the authorized officer shall take such measures as are appropriate to notify the Geothermal Environmental Advisory Panel, appropriate Federal, State, and local agencies, and interested members of the public, of the availability of the plan for review.

(43 FR 13823, Mar. 31, 1978, as amended at 44 FR 37590, Jun. 27, 1979, 47 FR 24130, June 3, 1982. Redesignated and amended at 48 FR 44788, 44789, Sept. 30, 1983)

#### § 3262.4-1 Plan of utilization.

At any time after the issuance of a Federal geothermal lease, the lessee, licensee, or the designated facility operator may conduct preliminary soil tests or studies necessary for determining those site(s) on the lease which are most suitable for the construction of a proposed utilization facility. Those site investigations that involve trenching or the construction of additional roads will require the prior written approval of the authorized officer and the appropriate surface management agency. Unless already authorized under an approved plan of operation, the lessee, licensee, or facility operator must submit in triplicate to the authorized officer a plan of utilization and obtain the approval of the authorized officer and the appropriate surface management agency prior to commencing any site preparation, road construction, or facility construction.

A plan of utilization shall include, as appropriate:

(a) A description and/or plans for all proposed structures and facilities (either than proprietary data which may be submitted under § 3264.2-1 of this title) to be constructed, erected, or located on the lease, including other support facilities or ancillary equipment. This portion of the plan should include:

(1) A contour map showing the facility location(s);

(2) A description of the purpose and operation of each facility;

(3) A schematic flow diagram;

(4) A plan for architectural landscaping;

(5) A startup date and a schedule for the construction activities;

(6) The planned safety provisions for emergency shutdown to protect public health and safety and for protection of the environment, including a schedule for the testing and maintenance of safety devices; and

(7) The planned manpower coverage to be provided during the operation of the facility.

(b) A copy of all site evaluation studies, soil reports, core logs, or laboratory reports which have been prepared for the site(s).

(c) A description of any additional tests, studies, or surveys which are planned to assess the geologic suitability of the site(s). A separate approval of any such tests, studies, or surveys may be granted by the authorized officer prior to the approval of the overall plan of utilization.

(d) A map showing the existing and planned access and lateral roads and the source of any road building material to be utilized.

(e) The source, quality, and proposed consumption rate of the water supply to be utilized.

(f) The identification of all other areas of potential surface disturbance.

(g) The methods for disposing of waste water, solid wastes, and noncondensable gases.

(h) A narrative statement describing the proposed measures to be taken in protecting the environment including, but not limited to, the prevention or control of (1) fires, (2) soil erosion, (3) pollution of the surface or groundwater.

er, (4) damage to fish and wildlife, cultural resources, or other natural resources, (5) air and noise pollution, and (6) hazards to public health and safety during normal operations. This portion of the plan should also detail the procedures to be followed in complying with all existing applicable Federal requirements and pertinent State and local standards.

(l) The provisions made for monitoring facility operations to assure continuing compliance with applicable noise, air, and water quality standards and regulations under this part, and for other potential environmental impacts identified by the authorized officer. The lessee, licensee, or facility operator shall be responsible for the monitoring of readily identifiable localized environmental impacts associated with the specific activities that are under their respective control.

(j) Any additional information or data which the authorized officer may require in support of the plan of utilization.

(k) A narrative statement describing, as appropriate, the method for the timely abandonment of the utilization facilities when no longer needed and the site restoration procedures to be conducted pursuant to the applicable provisions of the lease, GEO Orders, the regulations in this part, and the regulations in this group.

All documents submitted to the authorized officer as part of or in support of a plan of utilization shall be made available to interested parties for review, with the exception of those data which are subject to the provisions of § 3264.5 of this title. Upon receipt of any plan of utilization, the authorized officer shall take such measures as are appropriate to notify the Geothermal Environmental Advisory Panel, appropriate Federal, State, and local agencies, and interested members of the public, of the availability of said plan for review.

[44 FR 37590, June 27, 1979. Redesignated and amended at 48 FR 44788, 44790, Sept. 30, 1983]

§ 3262.4-2 Subsequent well operations, construction of new production facilities, and alteration of existing production facilities.

After completion of all operations authorized under any previously approved notice, permit, or plan, the lessee shall not begin a subsequent well operation, the construction of a new production facility, or the alteration of an existing production facility until the authorized officer has, as a minimum, approved the proposed operation as described by the lessee in a sundry notice or other appropriate permit application. Subsequent well operations that may be approved without a new or supplemental plan of operation include those operations to re-drill, repair, deepen, plug back, shoot, or plug and abandon any well; make casing tests, alter the casing or liner, stimulate production, or change the method of recovering production; or convert any formation or well for brine or fluid injection and which can be conducted without additional surface disturbance. The construction of a new production facility or the alteration of an existing production facility, which may be approved without a new or supplemental plan of operation, includes those where (a) a facility involved is related to the production of geothermal resources and not to the utilization thereof; (b) the site of the proposed construction or alteration activity is within a surface use area designated for that purpose in a plan of operation previously approved by the authorized officer and the appropriate land management agency; and (c) the construction or alteration can be performed without additional surface disturbance. When required by the authorized officer, pursuant to the regulations in this part, the lessee shall obtain the joint approval of the authorized officer and the appropriate land management agency for a new or supplemental plan of operation before commencing subsequent well operations, the construction of a new production facility, or the alteration of an existing production facility. In an emergency, a lessee may take action to prevent damage without receiving the prior approval of the authorized officer.

cer, but, in such cases, the lessee shall promptly report to the authorized officer the corrective actions taken.

[43 FR 13834, Mar. 31, 1978. Redesignated at 48 FR 44788, Sept. 30, 1983]

#### § 3262.5 Well designations.

The lessee shall mark each derrick upon commencement of drilling operations and each producing or suspended well in a conspicuous place with his name or the name of the operator, the serial number of the lease, the number and location of the well. Whenever possible, the well location shall be described by section or tract, township, range, and by quarter-quarter section or lot. The lessee shall take all necessary means and precautions to preserve these markings.

#### § 3262.5-1 Well records.

(a) The lessee shall keep for each well at his field headquarters or at other locations conveniently available to the authorized officer, accurate and complete records of all well operations including production, drilling, logging, directional well surveys, casing, perforation, safety devices, redrilling, deepening, repairing, cementing, alterations to casing, plugging, and abandoning. The records shall contain a description of any unusual malfunction, condition or problem; all the formations penetrated; the content and character of mineral deposits and water in each formation; thermal gradients, temperatures, pressures, analyses of geothermal waters, the kind, weight, size, grade, and setting depth of casing; and any other pertinent information.

(b) The lessee shall, within 30 days after completion of any well, transmit to the authorized officer copies of the records of all operations in a form prescribed by the authorized officer.

(c) Upon request of the authorized officer, the lessee will furnish (1) legible, exact copies of service company reports on cementing, perforating, acidizing, analyses of cores, electrical logs, temperature logs, chemical analyses of steam and waters, or other similar services; (2) other reports and records of operations in the manner and form prescribed by the authorized officer.

#### § 3262.5-2 Samples, tests, and surveys.

(a) The lessee, when required by the authorized officer, will make adequate sampling, tests and/or surveys using acceptable techniques, to determine the presence, quantity, quality, and potential of geothermal resources, mineral deposits, or water; the amount and direction of deviation of any well from the vertical; and/or formation temperatures and pressures, casing, tubing, or other pressures and such other facts as the authorized officer may require. Such tests or surveys shall be made without cost to the lessor.

(b) The lessee shall, without cost to the lessor, take such formation samples or cores to determine the identity and character of any formation as are required and prescribed by the authorized officer.

#### § 3262.5-3 Directional survey.

The authorized officer may require an angular deviation and directional survey to be made of the finished hole of each directionally drilled well. The survey shall be made at the risk and expense of the lessee unless requested by an offset lessee, and then, at the risk and expense of the offset lessee. A copy of the survey shall be furnished the authorized officer.

#### § 3262.5-4 Well control.

The lessee or operator shall: (a) Take all necessary precautions to keep all wells under control at all times; (b) utilize trained and competent personnel; (c) utilize properly maintained equipment and materials; and (d) use operating practices which insure the safety of life and property. The selection of the types and weights of drilling fluids and provisions for controlling fluid temperatures, blowout preventers, and other surface control equipment and materials, casing and cementing programs, etc., to be used shall be based on sound engineering principles and shall take into account apparent geothermal gradients, depths and pressures of the various formations to be penetrated and other pertinent geologic and engineering data and information about the area.



**§ 3262.5-5 Well abandonment.**

The lessee shall promptly plug and abandon any well on the leased land that is not used or useful. No well shall be abandoned until its lack of capacity for further profitable production of geothermal resources has been demonstrated to the satisfaction of the authorized officer. Before abandoning a producible well, the lessee shall submit to the authorized officer a statement of reasons for abandonment and his detailed plans for carrying on the necessary work. The detailed plans shall provide for the preservation of fresh water aquifers and for the prevention of intrusion into such aquifers of saline or polluted waters. A producible well may be abandoned only after receipt of written approval by the authorized officer. No well shall be plugged and abandoned until the manner and method of plugging have been approved or prescribed by the authorized officer. Equipment shall be removed, and premises at the well site shall be restored as near as reasonably possible to its original condition immediately after plugging operations are completed on any well except as otherwise authorized by the authorized officer. Drilling equipment shall not be removed from any suspended drilling well without taking adequate measures to close the well and protect the subsurface resources.

**§ 3262.6 Pollution.**

The lessee shall comply with all Federal and State standards with respect to the control of all forms of air, land, water, and noise pollution, including, but not limited to, the control of erosion and the disposal of liquid, solid, and gaseous wastes. The authorized officer may, in his discretion, establish additional and more stringent standards, and, if he does so, the lessee shall comply with those standards. Plans for disposal of well effluents must take into account effects on surface and subsurface waters, plants, fish and wildlife and their habitats, atmosphere, or any other effects which may cause or contribute to pollution, and such plans must be approved by the authorized officer before action is taken under them.

**§ 3262.6-1 Noise abatement.**

The lessee or, as appropriate, the licensee, designated operator, or designated facility operator shall minimize noise during exploration, development, production, and utilization operations. The welfare of the operating personnel and the public must not be affected adversely as a consequence of the noise created by expanding gases. The method and degree of noise abatement shall be as prescribed or approved by the authorized officer.

(44 FR 37590, June 27, 1979. Redesignated at 48 FR 47788, Sept. 30, 1983)

**§ 3262.6-2 Land subsidence and seismic activity.**

In the event subsidence or seismic activity results from the production of geothermal resources, as determined by monitoring activities by the lessee or a government body, the lessee shall take such action as required by the lease or by the authorized officer.

**§ 3262.6-3 Pits and sumps.**

The lessee shall provide and use pits and sumps of adequate capacity and design to retain all materials and fluids necessary to drilling, production, or other operations unless otherwise specified by the authorized officer. In no event shall the contents of a pit or sump be allowed by: (a) Contaminate streams, artificial canals or waterways, ground waters, lakes or rivers; (b) adversely affect environment, persons, plants, fish and wildlife and their habitats; or (c) damage the aesthetic values of the property or adjacent properties. When no longer needed, pits and sumps are to be filled and covered and the premises restored to a near natural state, as prescribed by the authorized officer.

**§ 3262.7 Accidents.**

The lessee shall take all reasonable precautions to prevent accidents and shall notify the authorized officer within 24 hours of all accidents on the leased land, and shall submit a full report thereon within 15 days.

**Bureau of Land Management, Interior****§ 3262.7-1 Workmanlike operations.**

The lessee shall carry on all operations and maintain the property at all times in a workmanlike manner, having due regard for the conservation of the property and the environment and for the health and safety of employees. The lessee shall remove from the property or store, in an orderly manner, all scrap or other materials not in use.

**§ 3262.8 Departure from orders.**

The authorized officer may prescribe or approve either in writing or orally, with prompt written confirmation, variances from the requirements of GPO orders and other orders issued pursuant to these regulations; when such variances are necessary for the proper control of a well, conservation of natural resources, protection of human health and safety, property, or the environment. The authorized officer shall inform appropriate Federal and State agencies, of any action taken under this section.

**§ 3262.9 Pilot operations or facility testing.**

With respect to the pilot operations or facility testing of those utilization facilities in accordance with the provisions of 30 U.S.C. 1012, the authorized officer may approve the suspension, waiver or reduction of the royalty obligation for a period not to exceed 120 days of net operation upon application therefor. No form of relief from the royalty requirements of a lease will be approved where the geothermal resources and/or the output of the facility would be used commercially or sold during said period. In addition, no application in this respect will be accepted in the absence of a determination by the authorized officer that the payment of royalty during this period would affect adversely the development and recovery of the resources and that the action would be in the interest of conservation, would encourage the greatest ultimate recovery of geothermal resources and is necessary in order to promote development or to ensure that the lease can be operated successfully under the lease terms. Each application for relief hereunder shall be filed in triplicate with the au-

thorized officer and, as a minimum shall:

- (a) Identify the facility, its location and the facility operator;
- (b) Provide the serial number(s) of the lease(s) from which the geothermal resources are produced and the name(s) of the current lessee(s) and/or operator(s);
- (c) Contain the number and location of each well which will be utilized during the pilot or testing operation of the facility and the estimated daily volumes of geothermal resources to be produced of each such well;
- (d) Furnish a detailed statement of the estimated costs associated with the pilot or testing operations; and
- (e) Supply other appropriate documentation to support the contention that relief from royalty requirements of the lease would be in accordance with the provisions of 30 U.S.C. 1012, as set forth in the preceding paragraph.

(48 FR 44790, Sept. 30, 1983)

**Subpart 3263—Measurement of Production****§ 3263.1 Measurement of geothermal resources.**

The lessee shall measure or gauge all production in accordance with methods approved by the authorized officer. The quantity and quality of all production shall be determined in accordance with the standard practices, procedures, and specifications generally used in industry. All measuring equipment shall be tested periodically and if found defective, the authorized officer will determine the quantity and quality of production from the best evidence available.

**§ 3263.2 Determination of content of by-products.**

The lessee shall periodically furnish the authorized officer the results of periodic tests showing the content of byproducts in the produced geothermal fluid and gases. Such tests shall be taken as specified by the authorized officer and by the method of testing approved by him.

## § 3263.3 Commingling production.

The authorized officer may authorize a lessee to commingle production from wells on his lease with production from other leases held by him or by other lessees subject to such conditions as he may prescribe.

### Support 3264—Reports To Be Made by All Lessees

## § 3264.1 General requirements.

(a) Information required to be submitted in accordance with the regulations in this part shall be furnished as directed by the authorized officer. Copies of forms can be obtained from the authorized officer and must be filed with that official within the time limit prescribed.

(b) When forms or reports other than those referred to in the regulations in this part may be necessary, instructions for the filing of such forms or reports will be given by the authorized officer.

## § 3264.2 Application for permit to drill, re-drill, deepen, or plug-back.

(a) A permit to drill, re-drill, deepen, or plug-back a well on Federal lands must be obtained from the authorized officer before the work is begun. The application for the permit, which shall be filed in triplicate with the authorized officer, shall state the location of the well in feet, and direction from the nearest section or tract lines as shown on the official plat of survey or protracted surveys; the altitude of the ground and derrick floor above sea level and how it was determined, and should be accompanied by a proposed plan of operations as required by these regulations.

(b) The proposed drilling and casing plan shall be outlined in detail under the heading "Details of Work" in the applications referred to herein, and shall describe the type of tools and equipment to be used, the proposed depth to which the well will be drilled, the estimated depths to the top of important markers, the estimated depths at which water, geothermal resources, or other mineral resources are expected, the proposed casing program (including the size and weight of casing),

the depth at which each string is to be set, and the amount of cement and mud to be used, the drilling method and type of circulating media (water, mud, foam, air or combinations thereof), the type of blowout prevention equipment to be used, the proposed coring, logging, or other program (such as drilling time log and sample description) to be used to determine the formations penetrated and the proposed program for determining geothermal gradients and the sampling and analysis of geothermal resources.

(c) Each application shall be accompanied by a plat showing the surface and expected bottomhole locations and the distances from the nearest section or tract lines as shown on the official plat of survey or protracted surveys. The scale shall not be less than 2,000 feet to 1 inch.

(d) Each application should be accompanied by supporting structural and hydrologic information based on available geologic and geophysical data.

## § 3264.2-1 Application for utilization permit.

(a) A permit to construct and operate an individual production well facility of not more than 10-megawatt net capacity or heat energy equivalent, including all related on-lease facilities, must be obtained from the authorized officer prior to commencing surface disturbing activities related to the construction and operation of each such facility. The application for a permit in this respect shall be filed in triplicate with the authorized officer and must state the location of the principal facility and all related sites by distance in meters and direction from the nearest section or tract lines, as shown on the official plat of survey or protracted surveys, and the elevation of the ground level at these sites. The application must be accompanied by a proposed plan of utilization, as required by § 3262.4-1 of this title. All individual well production facilities must be constructed and operated in accordance with the requirements of the regulations in this group and any other applicable regulations.

(b) A permit to construct and operate a research and demonstration facility (involving one or more wells of not more than 20-megawatt net capacity or heat energy equivalent, including all related on-lease facilities, must be obtained from the authorized officer prior to commencing any surface disturbing activities related to the construction or operations of each such facility. The application for a permit in this respect shall be filed in triplicate with the authorized officer and must state the location of the principal facility and all related sites by distance in meters and direction from the nearest section or tract lines, as shown on the official plat of survey or protracted surveys, and the elevation of the ground level at these sites. The application must be accompanied by a proposed plan of utilization, as required by § 3262.4-1 of this title. Any permit issued for a research and demonstration facility shall be for an initial term of not more than 5 years from the date that the facility becomes operational. All research and demonstration facilities must be constructed and operated in accordance with the requirements of the regulations in this part, 43 CFR Parts 3200, and other applicable regulations. The continued beneficial use of a research and demonstration facility beyond the initial term provided by any such permit, or the conversion of the facility to a plant facility at that time or at any time during the initial permit period, will require that a license be obtained from the responsible officer of the surface managing agency pursuant to the regulations in this group.

(c) A permit to construct and operate any plant facility, other than as provided in paragraph (a) or (b) of this section, including all related on-lease facilities, must be obtained from the authorized officer prior to commencing any surface disturbing activities related to the construction or operation of each such facility. If the proposed plant facility is to have an output of greater than 20-megawatt net capacity, or heat energy equivalent, the facility operator must also obtain a license or such other permit as may be required pursuant to the regulations in this group. The applica-

tion for a permit in this respect shall be filed in triplicate with the authorized officer and must state the location of the principal facility and all related sites by distance in meters and direction from the nearest section or tract lines, as shown on the official plat of survey or protracted surveys, and the elevation of the ground level at these sites. The application must be accompanied by a proposed plan of utilization, as required by § 3262.4-1 of this title. All plant facilities must be constructed and operated in accordance with the requirements of the regulations in this group and any other applicable regulations.

(d) Each application filed with the authorized officer for a permit to construct and operate a facility, as set forth in paragraph (a), (b), or (c) of this section, shall identify specifically the type of facility contemplated, the method of operation, and shall include:

(1) Designs, plans, and specifications for all improvements to be constructed or located at the principal facility site and at each related facility site in sufficient detail to permit a technical review for the purpose of determining that operational and design safety factors are adequate and that there will be compliance with all applicable regulatory and statutory requirements;

(2) An operating plan for the facility setting forth the procedures and standards pursuant to which the facility will be operated;

(3) The manner of metering facility input and output to determine plant performance and, when appropriate, to assure the proper calculation of the royalty value due;

(4) A schedule for the installation and pre-startup testing of all facility equipment and, if known, for the commencement of operations for the commercial utilization of geothermal resources; and

(5) Any additional pertinent information or data which the authorized officer may require for the proper consideration of the application.

(e) Except as permitted by the access provisions of the lease, transmission facilities (lines and substations) and roads or pipelines located on off-lease Federal surface will re-

quire that appropriate permits be obtained. In the event that a Federal agency, other than the Bureau of Land Management, has jurisdiction over all or a portion of the affected off-lease Federal surface, the necessary right-of-way permits must be obtained from that agency.

(f) When the construction and/or operation of a facility requires licensing or permitting by local, State, or Federal agencies (other than the Federal surface management agency), three copies of each such permit and/or license shall be submitted prior to the commencement of these activities.

(g) Where complete detailed engineering plans for all components of a utilization facility are not available at the time of the initial submission of an application for a utilization permit, the authorized officer may grant staged approval of separate components or phases of construction by means of a Sundry Notice or other appropriate permit.

(h) Prior to the actual operation of the facility, all equipment and pre-startup test results must be approved by the authorized officer. In addition, any utilization facility approved pursuant to this part may not be placed in operation, except for approved test periods, until an acceptable plan of production has been filed with and approved by the authorized officer.

(44 FR 37591, June 27, 1979. Redesignated and amended at 48 FR 44788, 44791, Sept. 30, 1983)

#### § 3264.2-2 Sundry notices and reports on wells.

(a) Any written notice of intention to do work or to change plans previously approved must be filed with the authorized officer in triplicate, unless otherwise directed, and must be approved by him before the work is begun. If, in case of emergency, any notice is given orally or by wire, and approval is obtained, the transaction shall be confirmed in writing. A subsequent report of the work performed must also be filed with the authorized officer.

(b) Casing test: Notice shall be given in advance to the authorized officer or his representative of the date and time when the operator expects to make a

casing test. Later, by agreement, the exact time shall be fixed. In the event of casing failure during the test, the casing must be repaired or replaced or recomenced as required by the authorized officer or his representative. The results of the test must be reported within 30 days after making a casing test. The report must describe the test completely and state the amount of mud and cement used, the lapse of time between running and cementing the casing and making the test, and the method of testing.

(c) Repairs or conditioning of well: Before the repairing or conditioning of a well, a notice setting forth in detail the plan of work must be filed with, and approved by, the authorized officer. A detailed report of the work accomplished and the methods employed, including all dates, and the results of such work must be filed within 30 days after completion of the repair work.

(d) Well stimulation: Before the lessee commences stimulation of a well by any means, a notice, setting forth in detail the plan of work, must be filed with and approved by the authorized officer. The notice shall name the type of stimulant and the amount to be used. A report showing the amount of stimulant used and the production rate before and after stimulation must be filed within 30 days from completion of the work.

(e) Altering casing in a well: Notice of intention to run a liner of to alter the casing by pulling or perforating by any means must be filed with and approved by the authorized officer before the work is started. This notice shall set forth in detail the plan of work. A report must be filed within 30 days after completion of the work stating exactly what was done and the results obtained.

(f) Notice of Intention to abandon well: Before abandonment work is begun on any well, whether a drilling well, geothermal resources well, water well, or so-called dry hole, notice of intention to abandon shall be filed with, and approved by, the authorized officer. The notice must be accompanied by a complete log, in duplicate, of the well to date, provided the complete log has not been filed previously, and

must give a detailed statement of the proposed work, including such information as kind, location, and length of plugs (by depths), plans for mudding, cementing, shooting, testing, and removing casing, and any other pertinent information.

(g) Subsequent report of abandonment: After a well is abandoned or plugged, a subsequent record of work done must be filed with the authorized officer. This report shall be filed separately within 30 days after the work is done. The report shall give a detailed account of the manner in which the abandonment or plugging work was carried out, including the nature and quantities of materials used in plugging and the location and extent (by depths) of the plugs of different materials; records of any tests or measurements made, and of the amount, size, and location (by depths) of casing left in the well; and a detailed statement of the volume of mud fluid used, and the pressure attained in mudding. If an attempt was made to part any casing, a complete report of the methods used and results obtained must be included.

#### § 3264.2-3 Log and history of well.

The lessee shall furnish in duplicate to the authorized officer, not later than 30 days after the completion of each well, a complete and accurate log and history, in chronological order, of all operations conducted on the well. A log shall be compiled for geologic information from cores or formations samples and duplicate copies of such log shall be filed. Duplicate copies of all electric logs, temperature surveys, water and steam analyses, hydrologic or heat flow tests, or direction surveys, if run, shall be furnished.

#### § 3264.2-4 Monthly report of operations.

A report of operations for each lease must be made for each calendar month, beginning with the month in which drilling operations are initiated. The report must be filed in duplicate with the authorized officer on or before the last day of the month following the month for which the report is filed unless an extension of time for the filing of the report is granted by the authorized officer. The report

shall disclose accurately all operations conducted on each well during the month, the status of operations on the last day of the month, and a general summary of the status of operations on the leased lands. The report must be submitted each month until the lease is terminated or until omission of the report is authorized by the authorized officer. The report shall show for each calendar month:

(a) The lease serial number or the unit or communitization agreement number which shall be inserted in the upper right corner;

(b) Each well listed separately by number, and its location by 40-acre subdivision (quarter-quarter section or lot), section number, township, range, and meridian;

(c) The number of days each well was produced, whether steam or hot water or both were produced, and the number of days each input well was in operation, if any;

(d) The quantity of production and any byproducts obtained from each well, if any are recovered;

(e) The depth of each active or suspended well, and the name, character, and depth of each formation drilled during the month, the date and reason for every shutdown, the names and depths of important formation changes, the amount and size of any casing run since the last report, the dates and results of any tests or environmental monitoring conducted, and any other noteworthy information on operations not specifically provided for in the form.

(f) The footnote must be completely filled out as required by the authorized officer. If no sales were made during the calendar month, the report must so state.

#### § 3264.2-5 Monthly report of facility operations.

A report of operations for each individual production well facility, research and demonstration facility, or plant facility must be made by the facility operator for each calendar month beginning with the month in which operations are first commenced. The report must be filed in duplicate with the authorized officer on or

before the last day of the month following the month for which the report is filed, unless an extension of time for filing is granted specifically in writing by the authorized officer.

(a) For each utilization facility, the report shall show, as applicable, for each calendar month:

(1) The lease serial number(s) or the unit or communalization agreement number covering the lands from which geothermal resources were produced and utilized at the facility;

(2) The output of the facility expressed as the number of kilowatt hours (gross and net output) of electricity generated or, when appropriate, as the heat energy equivalent thereof and the value of such output;

(3) The quantities (mass) of geothermal resources entering the plant and the average intake temperature and pressure;

(4) The quantity of water utilized from sources other than the produced geothermal resources;

(5) The total quantity (mass), temperature, and pressure of the plant effluent (waste water); and

(6) A detailed statement as to the reason or reasons for any suspension of facility operations during the month.

[44 FR 37592, June 27, 1979. Redesignated at 48 FR 44788, Sept. 30, 1983]

§ 3264.3 Report of expenditures for diligent exploration operations.

For exploration expenditures to be considered for qualification as diligent exploration under 43 CFR 3203.5, the lessee or operator must submit to the authorized officer a report of the expenditures no later than 60 days after the end of a lease year if the expenditures are to be credited for that lease year or future lease years.

[47 FR 24130, June 3, 1982. Redesignated at 48 FR 44788, Sept. 30, 1983]

§ 3264.4 Notice of intent and permit to conduct exploration operations.

(a) A permit to conduct exploration operations on the leased lands or on any lands covered by a unit or cooperative agreement, other than casual use activities, must be obtained by the lessee from the authorized officer

before the operation is begun. Applications for such permits shall be submitted under a notice of intent.

(b) The notice of intent shall be in the form prescribed by the authorized officer and shall be filed, in triplicate, with the authorized officer. The notice of intent shall include:

(1) The name and address, including zip code, of the person, association, or corporation for whom the operations will be conducted and of the person who will be in charge of the actual exploration operations;

(2) A statement that the signers agree that the proposed exploration operations will be conducted pursuant to the terms and conditions listed on the approved notice of intent form;

(3) A brief description of the type of operations which will be conducted;

(4) The approximate dates of the commencement and termination of the exploration operations;

(5) A description of the leased land to be explored by township, including the Federal identification number of the specific leases involved; and

(6) A map or maps, available from State or Federal sources and of a scale acceptable to the authorized officer, showing the leased lands to be entered and the specific sites or locations thereon at which the proposed exploration operations will be conducted.

(c) Within 30 days after the completion of each such exploration operation, the lessee shall furnish the authorized officer with three copies of all data obtained as a result of the operation and such other information as the authorized officer may require to complete the official records.

(d) The authorized officer, within 30 days following the date on which an acceptable notice of intent to conduct exploration operations is filed, will either approve the notice or advise the lessee, in writing, or the reasons for the delay.

[43 FR 13034, Mar. 31, 1978. Redesignated at 48 FR 44788, Sept. 30, 1983]

§ 3264.5 Public inspection of records.

Geologic and geophysical interpretation maps, and data required to be submitted under this part shall not be available for public inspection without

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the consent of the lessee so long as the lease remains in effect.

### Subpart 3265—Procedure in Case of Violation of the Regulations or Lease Terms

#### § 3265.1 Noncompliance with regulations or lease terms.

(a) Whenever a lessee or anyone acting under his/her authority fails to comply with the provisions of the regulations or lease terms, the authorized officer shall give the lessee notice to remedy any defaults or violations. Failure by the lessee to perform or commence the necessary remedial action pursuant to the notice may result in a shut down of operations and may also result in cancellation of the lease pursuant to § 3244.3 of this title.

(b) The authorized officer is authorized to shut down any operations which he determines are unsafe or are causing or can cause pollution.

[38 FR 35068, Dec. 21, 1973. Redesignated and amended at 48 FR 44788, Sept. 30, 1983]

### Subpart 3266—Appeals

#### § 3266.1 Appeals.

Appeals from final orders or decisions issued under the regulations in this part shall be made in the manner provided in Part 4 of this title.

[48 FR 44792, Sept. 30, 1983]

### PART 3280—GEOTHERMAL RESOURCES UNIT AGREEMENTS—UNPROVEN AREAS

NOTE: Many existing unit agreements specifically refer to the United States Geological Survey, USGS, Minerals Management Service, MMS, Supervisor, Conservation Manager, Deputy Conservation Manager, Minerals Manager and Deputy Minerals Manager in the body of the agreements, as well as reference to Title 30 CFR Part 270 or specific sections thereof. Those references must now be read in the context of the provisions of Secretarial Order 3087 and now mean the Bureau of Land Management or the Minerals Management Service as appropriate.

### Subpart 3280—Geothermal Resources Unit Agreements—General

#### Sec.

3280.0-1 Purpose.

3280.0-2 Policy.

3280.0-3 Authority.

3280.0-5 Definitions.

### Subpart 3281—Application for Unit Agreement

3281.1 Preliminary consideration of agreements.

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3282.1 Qualifications of unit operator.

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3283.1 Filing of documents and number of counterparts.

3283.2 Executed agreements.

3283.2-1 Approval of executed agreement.

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### Subpart 3284—Bonds

3284.1 Bonds.

### Subpart 3285—Appeals

3285.1 Appeals.

### Subpart 3286—Model Forms

3286.1 Model unit agreement—unproven areas.

3286.1-1 Model Exhibit "A".

3286.1-2 Model Exhibit "B".

3286.2 Model unit bond.

3286.3 Model designation of successor operator.

3286.4 Model change of operator by assignment.

AUTHORITY: Geothermal Steam Act of 1970, as amended (30 U.S.C. 1001-1025) and Order No. 3087, dated Dec. 3, 1982, as amended Feb. 7, 1983 (48 FR 8983).

SOURCE: 38 FR 35073, Dec. 21, 1973, unless otherwise noted. Redesignated at 48 FR 44792, Sept. 30, 1983.

#### EDITORIAL NOTES:

NOTE 1: See Redesignation Table No. 4 appearing in the Finding Aids section of this volume.

NOTE 2: Nomenclature changes to this part appear at 47 FR 28370, June 30, 1982; 48 FR 44792, Sept. 30, 1983.



## Support 3280—Geothermal Resources Unit Agreements—General

### § 3280.0-1 Purpose.

The regulations in this part prescribe the procedure to be followed and the requirements to be met by holders of Federal geothermal leases and their representatives who wish to unite with each other, or jointly or separately with others, in collectively adopting and operating under a cooperative or unit plan for the development of any geothermal resources pool, field or like area, or any part thereof.

(48 FR 44792, Sept. 30, 1983)

### § 3280.0-2 Policy.

Cooperative or unit agreements for the development of any geothermal resources pool, field or like area, or any part thereof, may be initiated by lessees, or where such agreements are deemed necessary in the interest of conserving natural resources, they may be required by the Director.

(48 FR 44792, Sept. 30, 1983)

### § 3280.0-3 Authority.

These regulations are issued under the authority of the Geothermal Steam Act of 1970, as amended (30 U.S.C. 1001-1025) and Order Number 3087, dated December 3, 1982, as amended February 7, 1983 (48 FR 8963), under which the Secretary consolidated and transferred the onshore minerals management functions of the Department, except mineral revenue functions and the leasing of restricted Indian lands, to the Bureau of Land Management.

(48 FR 44792, Sept. 30, 1983)

### § 3280.0-5 Definitions.

The following terms, as used in this part or in any agreement approved under the regulations in this part, shall have the meanings here indicated unless otherwise defined in such agreement:

(a) **Unit agreement.** An agreement or plan of development and operation for the production and utilization of separately owned interests in the geothermal resources made subject thereto as

a single consolidated unit without regard to separate ownerships and which provides for the allocation of costs and benefits on a basis defined in the agreement or plan.

(b) **Cooperative agreement.** An agreement or plan of development and operations for the production and utilization of geothermal resources made subject thereto in which separate ownership units are independently operated without allocation of production.

(c) **Agreement.** For convenience, the term "agreement" as used in the regulations in this part refers to either a unit or a cooperative agreement as defined in paragraphs (a) and (b) of this section unless otherwise indicated.

(d) **Unit area.** The area described in a unit agreement as constituting the land locally subject to development under such agreement.

(e) **Unitized land.** The part of a unit area committed to a unit agreement.

(f) **Unitized substances.** Deposits of geothermal resources recovered from unitized land by operation under and pursuant to a unit agreement.

(g) **Unit operator.** The person, association, partnership, corporation, or other business entity designated under a unit agreement to conduct operations on unitized land as specified in such agreement.

(h) **Participating area.** That part of the Unit Area which is deemed to be productive from a horizon/or deposit and to which production would be allocated in the manner described in the unit agreement assuming that all lands are committed to the unit agreement.

(i) **Working interest.** The interest held in geothermal resources or in lands containing the same by virtue of a lease, operating agreement, fee title, or otherwise, under which, except as otherwise provided in a unit or cooperative agreement, the owner of such interest is vested with the right to explore for, develop, produce, and utilize such resources. The right delegated to the unit operator as such by the unit agreement is not to be regarded as a working interest.

[38 FR 35073, Dec. 21, 1973. Redesignated and amended at 48 FR 44792, Sept. 30, 1983]

## Support 3281—Application for Unit Agreement

### § 3281.1 Preliminary consideration of agreements.

The form of unit agreement set forth in § 3286.1 of this title is acceptable for use in unproved areas. The use of this form is not mandatory, but any proposed departure therefrom should be submitted with the application submitted under § 3281.2 of this title for preliminary consideration and for such revision as may be deemed necessary. In areas proposed for unitization in which a discovery of geothermal resources has been made, or where a cooperative agreement is contemplated, the proposed agreement should be submitted with the application submitted under § 3281.2 of this title for preliminary consideration and for such revision as may be deemed necessary. The proposed form of agreement should be submitted in triplicate and should be plainly marked to identify the proposed version from the form of agreement set forth in § 3286.1 of this title.

### § 3281.2 Designation of area.

An application for designation of an area as logically subject to development and/or operation under a unit or cooperative agreement may be filed, in triplicate, by any proponent of such an agreement through the authorized officer. Each copy of the application shall be accompanied by a map or diagram on a scale of not less than 1 inch to 1 mile, outlining the area sought to be designated under this section. The Federal, State, and privately owned land should be indicated on said map by distinctive symbols or colors and Federal geothermal leases and lease applications should be identified by serial number. Geological information, including the results of geophysical surveys, and such other information as may tend to show that unitization is necessary and advisable in the public interest should be furnished in triplicate. Geological and geophysical information and data so furnished will not be available for public inspection, as provided by 5 U.S.C. 552(b), without the consent of the proponent. The ap-

plication and supporting data will be considered by the Director and the applicant will be informed of the decision reached. The designation of an area, pursuant to an application filed under this section, shall not create an exclusive right to submit an executed agreement for such area, nor preclude the inclusion of such area or any part thereof in another unit area.

### § 3281.3 Parties to unit or cooperative agreement.

The owners of any rights, title, or interest in the geothermal resources deposits to be developed and operated under an agreement can be regarded as proper parties to a proposed agreement. All such owners must be invited to join as parties to the agreement. If any owner fails or refuses to join the agreement, the proponent of the agreement should declare this to the authorized officer and should submit evidence of efforts made to obtain joinder of such owner and the reasons for nonjoinder.

### § 3281.4 State land.

Where State-owned land is to be included in the unit, approval of the agreement by appropriate State officials should be obtained prior to its submission to the Department for approval of the executed agreement. When authorized by the laws of the State in which the unitized land is situated, provisions may be made in the agreement accepting State law, to the extent that they are applicable to non-Federal unitized land.

## Support 3282—Qualification of Unit Operator

### § 3282.1 Qualifications of unit operator.

A unit operator must qualify as to citizenship in the same manner as those holding interests in geothermal leases issued under the Geothermal Steam Act of 1970. The unit operator may be an owner of a working interest in the unit area or such other party as may be selected by the owners of working interests and approved by the authorized officer. The unit operator shall execute an acceptance of the duties and obligations imposed by the

agreement. No designation of, or change in, a unit operator will become effective unless and until approved by the authorized officer, and no such approval will be granted unless the unit operator is deemed qualified to fulfill the duties and obligations prescribed in the agreement.

#### Subpart 3283—Filing and Approval of Documents

##### § 3283.1 Filing of documents and number of counterparts.

All proposals and supporting papers, instruments and documents submitted under this part shall be filed with the authorized officer, unless otherwise provided in this part or otherwise instructed by the Director.

[48 FR 44793, Sept. 30, 1983]

##### § 3283.2 Executed agreement.

(a) Where a duly executed agreement is submitted for Departmental approval, a minimum of 6 signed counterparts shall be filed. The same number of counterparts shall be filed for documents supplementing, modifying or amending an agreement, including change of operator, designation of a new operator and notice of surrender, relinquishment or termination.

(b) The address of each signatory party to the agreement shall be inserted below the party's signature. Each signature shall be attested to by at least 1 witness, if not notarized. Corporate or other signatures made in a representative capacity shall be accompanied by evidence of the authorization of the signatories to act unless such evidence is already a matter of record in the Bureau of Land Management. (The parties may execute any number of counterparts of the agreement with the same force and effect as if all parties signed the same document, or may execute a ratification of consent in a separate instrument with like force and effect.)

(c) Any modification of an approved agreement shall require approval of the Secretary or his/her duly authorized representative under procedures similar to those cited in § 3283.2-1 of this title.

[48 FR 44793, Sept. 30, 1983]

##### § 3283.2-1 Approval of executed agreement.

A duly executed unit or cooperative agreement shall be approved by the Secretary or his/her duly authorized representative upon a determination that such agreement is necessary or advisable in the public interest and is for the purpose of properly conserving the natural resources, taking into account the environmental consequences of the action. Such approval shall be incorporated in a certificate appended to the agreement. No such agreement shall be approved unless at least 1 of the parties is a holder of a Federal lease embracing lands being committed to the agreement and unless the parties signatory to the agreement hold sufficient interests in the area to give effective control of operations therein.

[48 FR 44793, Sept. 30, 1983]

##### § 3283.3 Participating area.

Each application for approval of a participating area, or revision thereof, shall be accompanied by 3 copies of a substantiating geologic and engineering report, structure contour maps(s), cross-section or other pertinent data.

[48 FR 44793, Sept. 30, 1983]

##### § 3283.4 Plan of development.

Plans of development and operation, plans of further development and operation and proposed participating areas and revisions thereof shall be submitted in quadruplicate.

[48 FR 44793, Sept. 30, 1983]

##### § 3283.5 Return of approved documents.

All instruments or documents other than plans of development and operation, plans of further development and operation and proposed participating areas and revisions thereof submitted for approval shall be submitted for approval in sufficient number to permit the approving official to return at least 1 approved counterpart.

[48 FR 44793, Sept. 30, 1983]

#### Subpart 3284—Bonds

##### § 3284.1 Bonds.

In lieu of separate bonds required for each Federal lease committed to a unit agreement, the unit operator may furnish and maintain a collective corporate surety bond or a personal bond conditioned upon faithful performance of the duties and obligations of the agreement and the terms of the leases subject thereto. Personal bonds shall be accompanied by a deposit of negotiable Federal securities in a sum equal at their par value to the amount of the bond and by a proper conveyance to the Secretary of full authority to sell such securities in case of default in the performance of the obligations assumed. The liability under the bond shall be for such amount as the authorized officer shall determine to be adequate to protect the interests of the United States. Additional bond coverage may be required whenever deemed necessary by the authorized officer. The bond must be filed with and accepted by the Bureau of Land Management before operations will be approved. A form of corporate surety bond is set forth in § 3286.2 of this title. In case of changes of unit operator, a new bond must be filed or a consent of surety to the change in principal under the existing bond must be furnished.

#### Subpart 3285—Appeals

##### § 3285.1 Appeals.

Appeals from final orders or decisions issued under the regulations in this part shall be made in the manner provided in Part 4 of this title.

#### Subpart 3286—Model Forms

##### § 3286.1 Model unit agreement—unproven areas.

UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE \_\_\_\_\_ UNIT AREA  
COUNTY OF \_\_\_\_\_, STATE  
OF \_\_\_\_\_

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#### UNIT AGREEMENT COUNTY \_\_\_\_\_

This Agreement entered into by and between the parties subscribing, ratifying, or consenting hereto, and herein referred to as the "parties hereto".

WITNESSETH: Whereas the parties hereto are the owners of working, royalty, or other geothermal resources interests in land subject to this Agreement; and

Whereas the Geothermal Steam Act of 1970 (84 Stat. 1566), hereinafter referred to as the "Act", authorizes Federal lessees and their representatives to unite with each other, or jointly or separately with others, in collectively adopting and operating under a cooperative or unit plan of development or operation of any geothermal resources pool, field, or like area, or any part thereof, for

the purpose of more properly conserving the natural resources thereof, whenever determined and certified by the Secretary of the Interior to be necessary or advisable in the public interest; and

Whereas the parties hereto hold sufficient interest in the \_\_\_\_\_ Unit Area covering the land herein described to effectively control operations therein; and

Whereas, it is the purpose of the parties hereto to conserve natural resources, prevent waste, and secure other benefits obtainable through development and operations of the area subject to this Agreement under the terms, conditions, and limitations herein set forth;

Now, therefore, in consideration of the premises and the promises herein contained, the parties hereto commit to this agreement their respective interests in the below-defined Unit Area, and agree severally among themselves as follows:

#### ARTICLE I—ENABLING ACT AND REGULATIONS

1.1 The Act and all valid pertinent regulations, including operating and unit plan regulations, heretofore or hereafter issued thereunder are accepted and made a part of this agreement as to Federal lands.

1.2 As to non-Federal lands, the geothermal resources operating regulations in effect as of the effective date hereof governing drilling and producing operations, not inconsistent with the laws of the State in which the non-Federal land is located, are hereby accepted and made a part of this agreement.

#### ARTICLE II—DEFINITIONS

2.1 The following terms shall have the meanings here indicated:

(a) *Geothermal lease.* A lease issued under the act of December 24, 1920 (41 Stat. 1569), pursuant to the leasing regulations contained in 43 CFR Group 3200 and, unless the context indicates otherwise, "lease" shall mean a geothermal lease.

(b) *Unit area.* The area described in Article III of this Agreement.

(c) *Unit operator.* The person, association, partnership, corporation, or other business entity designated under this Agreement to conduct operations on Unutilized Land as specified herein.

(d) *Participating area.* That part of the Unit Area which is deemed to be productive from a horizon or deposit and to which production would be allocated in the manner described in the unit agreement assuming that all lands are committed to the unit agreement.

(e) *Working interest.* The interest held in geothermal resources or in lands containing the same by virtue of a lease, operating agreement, fee title, or otherwise, under which, except as otherwise provided in this

Agreement, the owner of such interest is vested with the right to explore for, develop, produce and utilize such resources. The right delegated to the Unit Operator as such by this Agreement is not to be regarded as a Working Interest.

(f) *Secretary.* The Secretary of the Interior or any person duly authorized to exercise powers vested in that officer.

(g) *Director.* The Director of the Bureau of Land Management.

(h) *Authorized officer.* Any person authorized by law or by a valid delegation of authority in the Bureau of Land Management to perform the duties described.

#### ARTICLE III—UNIT AREA AND EXHIBITS

3.1 The area specified on the map attached hereto marked "Exhibit A" hereby designated and recognized as constituting the Unit Area, containing \_\_\_\_\_ acres, more or less.

The above-described Unit Area shall when practicable be expanded to include therein any additional land or shall be contracted to exclude lands whenever such expansion or contraction is deemed to be necessary or advisable to conform with the purposes of this Agreement.

3.2 Exhibit A attached hereto and made a part hereof is a map showing the boundaries of the Unit Area, the boundaries and identity of tracts and leases in said area to the extent known to the Unit Operator.

3.3 Exhibit B attached hereto and made a part hereof is a schedule showing to the extent known to the Unit Operator the acreage, percentage, and kind of ownership of geothermal resources interests in all lands in the Unit Area.

3.4 Exhibits A and B shall be revised by the Unit Operator whenever changes in the Unit Area render such revision necessary, or when requested by the authorized officer, and not less than five copies of the revised Exhibits shall be filed with the authorized officer.

#### ARTICLE IV—CONTRACTION AND EXPANSION OF UNIT AREA

4.1 Unless otherwise specified herein, the expansion and/or contraction of the Unit Area contemplated in Article 3.1 hereof shall be effected in the following manner:

(a) Unit Operator either on demand of the Director or on its own motion and after prior concurrence by the Director, shall prepare a notice of proposed expansion or contraction describing the contemplated changes in the boundaries of the Unit Area, the reasons therefor, and the proposed effective date thereof, preferably the first day of a month subsequent to the date of notice.

(b) Said notice shall be delivered to the authorized officer, and copies thereof

mailed to the last known address of each Working Interest Owner, Lessee, and Lessor whose interests are affected, advising that 30 days will be allowed for submission to the Unit Operator of any objections.

(c) Upon expiration of the 30-day period provided in the preceding item (b) hereof, the Unit Operator shall file with the authorized officer evidence of mailing of the notice of expansion or contraction and a copy of any objections thereto which have been filed with the Unit Operator, together with an application in sufficient number, for approval of such expansion or contraction and with appropriate joint action.

(d) After due consideration of all pertinent information, the expansion or contraction shall, upon approval by the authorized officer, become effective as of the date prescribed in the notice.

4.2 Unutilized Leases. Insofar as they cover any lands which are excluded from the Unit Area under any of the provisions of this Article IV may be maintained and continued in the force and effect in accordance with the terms, provisions, and conditions contained in the Act, and the lease or leases and amendments thereto, except that operations and/or production under this Unit Agreement shall not serve to maintain or continue the excluded portion of any lease.

4.3 All legal subdivisions of unutilized lands (i.e., 40 acres by Governmental survey or its nearest lot or tract equivalent in instances of irregular surveys), no part of which is entitled to be within a Participating Area on the fifth anniversary of the effective date of the Initial Participating Area Agreement, shall be eliminated automatically from this Agreement effective as of said fifth anniversary of such lands shall no longer be a part of the Unit Area and shall not be subject to this Agreement unless diligent drilling operations are in progress on an exploratory well on said fifth anniversary, in which case such lands shall not be eliminated from the Unit Area for as long as exploratory drilling operations are continued diligently with not more than four (4) months time elapsing between the completion of one exploratory well and the commencement of the next exploratory well.

4.4 An exploratory well, for the purposes of this Article IV is defined as any well, regardless of surface location, projected for completion in a zone or deposit below any zone or deposit for which a Participating Area has been established and is in effect, or any well, regardless of surface location, projected for completion at a subsurface location under Unutilized Land not entitled to be within a Participating Area.

4.5 In the event an exploratory well is completed during the four (4) months immediately preceding the fifth anniversary of the Initial Participating Area established

under this Agreement, lands not entitled to be within a Participating Area shall not be eliminated from this Agreement on said fifth anniversary, provided the drilling of the exploratory well is commenced under an approved Plan of Operation within four (4) months after the completion of said well. In such event, the land not entitled to be in Participation shall not be eliminated from the Unit Area so long as exploratory drilling operations are continued diligently with not more than four (4) months time elapsing between the completion of one exploratory well and the commencement of the next exploratory well.

4.6 With prior approval of the authorized officer, a period of time in excess of four (4) months may be allowed to elapse between the completion of one well and the commencement of the next well without the automatic elimination of nonparticipating acreage.

4.7 Unutilized lands proved productive by drilling operations which serve to delay automatic elimination of lands under Article IV shall be incorporated into a Participating Area (or Areas) in the same manner as such lands would have been incorporated in such areas had such lands been proven productive during the year preceding said fifth anniversary.

4.8 In the event nonparticipating lands are retained under this Agreement after the fifth anniversary of the Initial Participating Area as a result of exploratory drilling operations, all legal subdivisions of unutilized land (i.e., 40 acres by Government survey or its nearest lot or tract equivalent in instances of irregular surveys), no part of which is entitled to be within a Participating Area shall be eliminated automatically as of the 121 day, or such later date as may be established by the authorized officer, following the completion of the last well recognized as delaying such automatic elimination beyond the fifth anniversary of the Initial Participating Area established under this Agreement.

#### ARTICLE V—UNUTILIZED LAND AND UNUTILIZED SUBSTANCES

5.1 All land committed to this Agreement shall constitute land referred to herein as "Unutilized Land." All geothermal resources in and produced from any and all formations of the Unutilized Land are unutilized under the terms of this agreement and herein are called "Unutilized Substances."

#### ARTICLE VI—UNIT OPERATOR

6.1 \_\_\_\_\_ is hereby designated as Unit Operator and by signature hereto as Unit Operator agrees and consents to accept the duties and obligations of Unit Operator for the discovery, development, production,

distribution and utilization of Unitized Substances as herein provided. Whenever reference is made herein to the Unit Operator, reference means the Unit Operator acting in that capacity and not as an owner of interest in Unitized Substances, and the term "Working Interest Owner" and the herein shall include or refer to Unit Operator as the owner of a Working Interest when such an interest is owned by it.

#### ARTICLE VII—RESIGNATION OR REMOVAL OF UNIT OPERATOR

7.1 Prior to the establishment of a Participating Area, hereunder, Unit Operator shall have the right to resign. Such resignation shall not become effective 60 days after the Unit Operator or terminate Unit Operators rights, as such, for a period of six (6) months after notice of its intention to resign has been served by Unit Operator on all Working Interest Owners and the authorized officer, nor until all wells then drilled hereunder are placed in a satisfactory condition for suspension or abandonment whichever is required by the authorized officer, unless a new Unit Operator shall have been selected and approved and shall have taken over and assumed the duties and obligations of Unit Operator prior to the expiration of said period.

7.2 After the establishment of a Participating Area hereunder Unit Operator shall have the right to resign in the manner and subject to the limitations provided in 7.1 above.

7.3 The Unit Operator may, upon default or failure in the performance of its duties or obligations hereunder, subject to removal by the same percentage vote of the owners of Working Interests as herein provided for the selection of a new Unit Operator. Such removal shall be effective upon notice thereof to the authorized officer.

7.4 The resignation or removal of Unit Operator under this Agreement shall not terminate its right, title, or interest as an owner of a Working Interest or other interest in Unitized Substances, but, upon the resignation or removal of Unit Operator becoming effective, such Unit Operator shall deliver possession of all wells, equipment, material and appliances used in conducting the unit operations to the new duly qualified successor Unit Operator or, if no such new unit operator is elected, to the Working Interest Owners. In any action taken hereunder to be used for the purpose of conducting operations hereunder.

7.5 In all instances of resignation or removal until a successor Unit Operator is selected and approved as hereinafter provided, the Working Interest Owners shall be jointly responsible for performance of the duties and obligations of Unit Operator, and

shall not later than 30 days before such resignation or removal becomes effective appoint a competent agent to represent them in any action to be taken hereunder.

7.6 The resignation of Unit Operator shall not release Unit Operator from any liability for any default by it hereunder occurring prior to the effective date of its resignation.

#### ARTICLE VIII—SUCCESSOR UNIT OPERATOR

8.1 If, prior to the establishment of a Participating Area hereunder, the Unit Operator shall resign as Operator, or shall be removed as provided in Article VII, a successor Unit Operator may be selected by vote of the owners of a majority of the Working Interests in Unitized Substances, based on their respective shares, on an acreage basis, in the Unitized Land.

8.2 If, after the establishment of a Participating Area hereunder, the Unit Operator shall resign as Unit Operator, or shall be removed as provided in Article VII, a successor Unit Operator may be selected by vote of the owners of a majority of the Working Interests in Unitized Substances, based on their respective shares, on a participating acreage basis. Provided, that, if a majority but less than 60 percent of the Working Interest in the Participating Lands is owned by the party to this agreement, a concurring vote of one or more additional Working Interest Owners owning 10 percent or more of the Working Interest in the participating land shall be required to select a new Unit Operator.

8.3 The selection of a successor Unit Operator shall not become effective until:

(a) The Unit Operator so selected shall accept in writing the duties, obligations and responsibilities of the Unit Operator, and

(b) The selection shall have been approved by the authorized officer.

8.4 If no successor Unit Operator is selected and qualified as herein provided, the Director at his election may declare this Agreement terminated.

#### ARTICLE IX—ACCOUNTING PROVISIONS AND UNIT OPERATING AGREEMENT

9.1 Costs and expenses incurred by Unit Operator in conducting unit operations hereunder shall be paid and apportioned among and borne by the owners of Working Interests; all in accordance with the agreement or agreements entered into by and between the Unit Operator and the owners of Working Interests, whether one or more, separately or collectively.

9.2 Any agreement or agreements entered into by the Unit Operator and the Owners and the Unit Operator as provided in this Article, whether one or more, are

herein referred to as the "Unit Operating Agreement".

9.3 The Unit Operating Agreement shall provide the manner in which the Working Interest Owners shall be entitled to receive their respective share of the benefits accruing hereto in conformity with their underlying operating agreements, leases, or other contracts, and such other rights and obligations, as between Unit Operator and the Working Interest Owners.

9.4 Neither the Unit Operating Agreement nor any amendment thereto shall be deemed either to modify any of the terms and conditions of this Agreement or to relieve the Unit Operator of any right or obligation established under this Agreement.

9.5 In case of any inconsistency or conflict between this Agreement and the Unit Operating Agreement, this Agreement shall govern.

9.6 Three true copies of any Unit Operating Agreement executed pursuant to this Article IX shall be filed with the authorized officer prior to approval of this Agreement.

#### ARTICLE X—RIGHTS AND OBLIGATIONS OF UNIT OPERATOR

10.1 The right, privilege, and duty of exercising all and all rights of the parties hereto which are necessary or convenient for prospecting, producing, distributing or utilizing Unitized Substances are hereby delegated to and shall be exercised by the Unit Operator as provided in this Agreement in accordance with a Plan of Operations approved by the authorized officer.

10.2 Upon request by Unit Operator, acceptable evidence of title to governmental resources interests in the Unitized Land shall be deposited with the Unit Operator, and together with this Agreement shall constitute and define the rights, privileges, and obligations of Unit Operator.

10.3 Nothing in this Agreement shall be construed to transfer title to any land or to any lease or operating agreement, it being understood that the Unit Operator, in its capacity as Unit Operator shall exercise the rights of possession and use vested in the parties hereto only for the purposes specified in this Agreement.

10.4 The Unit Operator shall take such measures as the authorized officer deems appropriate and adequate to prevent drainage of Unitized Substances from Unitized Land by wells on land not subject to this Agreement.

10.5 The Director is hereby vested with authority to alter or modify from time to time, in his discretion, the rate of prospecting and development and the quantity and rate of production under this Agreement.

#### ARTICLE XI—PLAN OF OPERATION

11.1 Concurrently with the submission of this Agreement for approval, Unit Operator shall submit an acceptable Initial Plan of Operation. Said plan shall be as complete and adequate as the authorized officer may determine to be necessary for timely exploration and/or development and to insure proper protection of the environment and conservation of the natural resources of the Unit Area.

11.2 Prior to the expiration of the Initial Plan of Operation, or any subsequent Plan of Operation, Unit Operator shall submit for approval of the authorized officer an acceptable subsequent Plan of Operation for the Unit Area which, when approved by the authorized officer, shall constitute the exploratory and/or development drilling and operating obligations of Unit Operators under this Agreement for the period specified therein.

11.3 Any plan of Operation submitted hereunder shall:

(a) Specify the number and locations of any wells to be drilled and the proposed order and time for such drilling, and

(b) To the extent practicable, specify the operating practices regarded as necessary and advisable for proper conservation of natural resources and protection of the environment in compliance with section 1.1.

11.4 The Plan of Operation submitted concurrently with this Agreement for approval shall provide that within six (6) months after the effective date hereof, the Unit Operator shall begin to drill an adequate test well at a location approved by the authorized officer, unless on such effective date a well is being drilled in conformity with the terms, hereof, and thereafter continue such drilling diligently until the information has been tested or until at a lesser depth unitized substances shall be discovered which can be produced in paying quantities (i.e., quantities sufficient to repay the costs of drilling, completing, and producing operations, with a reasonable profit) or the Unit Operator shall at any time establish to the satisfaction of the authorized officer that further drilling of said well would be unwarranted or impracticable. Provided, however, That Unit Operator shall not in any event be required to drill said well to a depth in excess of \_\_\_\_\_ feet.

11.5 The Initial Plan of Operation and/or subsequent Plans of Operation submitted under this article shall provide that the Unit Operator shall initiate a continuous drilling program providing for drilling of no less than one well at a time, and allowing no more than six (6) months time to elapse between completion of one well and the beginning of the next well, until a well capable of



producing Unitized Substances. In paying quantities is completed to the satisfaction of the authorized officer or until it is reasonably proved that the Unitized Land is incapable of producing Unitized Substances in paying quantities in the formations drilled under this Agreement.

11.6 When warranted by unforeseen circumstances, the authorized officer may grant a single extension of any or all of the critical dates for exploratory drilling operations cited in the Initial or subsequent Plans of Operation. No such extension shall exceed a period of four (4) months for each well, required by the Initial Plan of Operation.

11.7 Until there is actual production of Unitized Substances, the failure of Unit Operator to timely drill any of the wells provided for in Plans of Operation shall be under this Article XI or to timely submit an acceptable subsequent Plan of Operations, shall, after notice of default or notice of prospective default to Unit Operator by the authorized officer and the failure of the Unit Operator to remedy any actual default within a reasonable time (as determined by the authorized officer), result in automatic termination of this Agreement effective as of the date of the default, as determined by the authorized officer.

11.8 Separate Plans of Operations may be submitted for separate productive zones, subject to the approval of the authorized officer. Also subject to the approval of the authorized officer, Plans of Operation shall be modified or supplemented when necessary to meet changes in conditions or to protect the interest of all parties to this Agreement.

#### ARTICLE XII—PARTICIPATING AREAS

12.1 Prior to the commencement of production of Unitized Substances, the Unit Operator shall submit for approval by the authorized officer a schedule (or schedules) of all lands to be regarded as reasonably proved to be productive from a pool or deposit discovered or developed; all lands in said schedule (or schedules), on approval of the authorized officer, will constitute a Participating Area (or Areas) effective as of the date production commences or the effective date of this Unit Agreement, whichever is later. Said schedule (or schedules) shall also set forth the percentage of Unitized Substances to be allocated, as herein provided, to each tract in the Participating Area (or Areas) so established and shall govern the allocation of production commencing with the effective date of the Participating Area.

12.2 A separate Participating Area shall be established for each separate pool or deposit of Unitized Substances or for any group thereof which is produced as a single pool or deposit and two or more Participating Areas so established may be combined into one, on approval of the author-

ized officer. The effective date of any Participating Area established after the commencement of actual production of Unitized Substances shall be the first of the month in which is obtained the knowledge or information on which the establishment of said Participating Area is based, unless a more appropriate effective date is proposed by the Unit Operator and approved by the authorized officer.

12.3 Any Participating Area (or Areas) established under 12.1 or 12.2 above shall, subject to the approval of the authorized officer, be revised from time to time to include additional land then regarded as reasonably proved to be productive from the pool or deposit for which the Participating Area was established or to include lands necessary to unit operations, or to exclude land then regarded as reasonably proved not to be productive from the pool or deposit for which the Participating Area was established or to exclude land not necessary to unit operations and the schedule (or schedules) of allocation percentages shall be revised accordingly.

12.4 Subject to the limitation cited in 12.1 hereof, the effective date of any revision of a Participating Area established under Articles 12.1 or 12.2 shall be the first of the month in which is obtained the knowledge or information on which such revision is predicated, provided, however, that a more appropriate effective date may be used if justified by the Unit Operator and approved by the authorized officer.

12.5 No land shall be excluded from a Participating Area on account of depletion of the Unitized Substances, except that any Participating Area established under the provisions of this Article XII shall terminate automatically whenever all operations are abandoned in the pool or deposit for which the Participating Area was established.

12.6 Nothing herein contained shall be construed as requiring any retroactive adjustment for production obtained prior to the effective date of the revision of a Participating Area.

#### ARTICLE XIII—ALLOCATION OF UNITIZED SUBSTANCES

13.1 All Unitized Substances produced from a Participating Area, established under this Agreement, shall be deemed to be produced equally on an acreage basis from the several tracts of Unitized Land within the Participating Area established for such production.

13.2 For the purpose of determining any benefits accruing under this Agreement, the total Unitized Land shall have been allocated to it such percentage of said production as the number of acres in the tract included in the Participating Area bears to

the total number of acres of Unitized Land in said Participating Area.

13.3 Allocation of production hereunder for purposes other than for settlement of the royalty obligations of the respective Working Interest Owners, shall be on the basis prescribed in the Unit Operating Agreement whether in conformity with the basis of allocation set forth above or otherwise.

13.4 The Unitized Substances produced from a Participating Area shall be allocated as provided herein regardless of whether any wells are drilled on any particular part or tract of said Participating Area.

#### ARTICLE XIV—RELINQUISHMENT OF LEASES

14.1 Pursuant to the provisions of the Federal leases and 43 CFR 3244.1, a lessee of record shall, subject to the provisions of right to relinquish any of its interests in leases committed hereto, in whole or in part; provided, that no relinquishment shall be made of interests in land within a Participating Area without the prior approval of the Director.

14.2 A Working Interest Owner may exercise the right to surrender, when such right is vested in it by any non-Federal lease, sublease, or operating agreement, provided that each party who will or might acquire the Working Interest in such lease by such surrender or by forfeiture is bound by the terms of this Agreement, and further provided that no relinquishment shall be made of such land within a Participating Area without the prior written consent of the non-Federal Lessor.

14.3 If, as the result of relinquishment, surrender, or forfeiture, the Working Interest is vested in the fee owner or lessor of the Unitized Substances, such owner may:

(1) Accept those Working Interest rights and obligations subject to this Agreement and the Unit Operating Agreement; or

(2) Lease the portion of such land as is included in a Participating Area established hereunder, subject to this Agreement and the Unit Operating Agreement, and provide for the independent operation of any part of such land that is not then included within a Participating Area established hereunder.

14.4 If the fee owner or lessor of the Unitized Substances does not, (1) accept the Working Interest rights and obligations subject to this Agreement and the Unit Operating Agreement, or (2) lease such lands as are not included within a Participating Area provided in 14.3 above within six (6) months after the relinquishment, surrendered, or forfeited Working Interest becomes vested in the fee owner or lessor, the Working Interest benefits and obligations accruing to and under this Agreement and the Unit Operating Agreement shall be shared by the

owners of the remaining unitized Working interests in accordance with their respective Working Interest ownerships, and such owners of Working Interests shall compensate the fee owner or lessor of Unitized Substances in such lands by paying sums equal to the rentals, minimum royalties, and royalties applicable to such lands under the lease or leases in effect when the Working Interests were relinquished, surrendered, or forfeited.

14.5 Subject to the provisions of 14.4 above, an appropriate accounting and settlement shall be made for all benefits accruing to or payments and expenditures made or incurred on behalf of any surrender or forfeited Working Interest subsequent to the date of surrender or forfeiture, and payment of any moneys found to be owing by such an accounting shall be made as between the parties within thirty (30) days.

14.6 In the event no Unit Operating Agreement is in existence and a mutually acceptable Agreement cannot be consummated between the respective parties, the authorized officer may prescribe such reasonable and equitable conditions of agreement as he deems warranted under the circumstances.

14.7 The exercise of any right vested in a Working Interest Owner to reacquire such Working Interest to the party from whom obtained shall be subject to the same conditions as set forth in this Article XIV in regard to the exercise of a right to surrender.

#### ARTICLE XV—RENTALS AND MINIMUM ROYALTIES

15.1 Any unitized lease on non-Federal land containing provisions which would terminate such lease unless drilling operations are commenced upon the land covered thereby within the time therein specified or rentals are paid for the privilege of deferring such drilling operations, the rentals required thereby shall, notwithstanding any other provisions of this Agreement, be deemed to accrue as to the portion of the lease not included within a Participating Area and become payable during the term thereof as extended by this Agreement, and until the required drillings are commenced upon the land covered thereby.

15.2 Rentals are payable on Federal leases on or before the anniversary date of each lease year; minimum royalties accrue from the anniversary date of each lease year and are payable at the end of the lease year.

15.3 Beginning with the lease year commencing on or after \_\_\_\_\_ and for each lease year thereafter, rental or minimum royalty for lands of the United States subject to this Agreement shall be made on the following basis:

(a) An advance annual rental in the amount prescribed in the Unutilized Federal leases, in no event creditable against production royalties, shall be paid for each acre or fraction thereof which is not within a Participating Area.

(b) A minimum royalty shall be charged at the beginning of each lease year (such minimum royalty to be due as of the last day of the lease year and payable within thirty (30) days thereafter) of \$2 an acre or fraction thereof, for all Unutilized Acres within a Participating Area as of the beginning of the lease year. If there is production during the lease year the deficit, if any, between the actual royalty paid and the minimum royalty prescribed herein shall be paid.

15.4 Rental or minimum royalties due on leases committed hereto shall be paid by Working Interest Owners responsible therefor under existing contracts, laws, and regulations, or by the Unit Operator.

15.5 Settlement for royalty interest shall be made by Working Interest Owners responsible therefor under existing contracts, laws, and regulations, or by the Unit Operator, on or before the last day of each month for Unutilized Substances produced during the preceding calendar month.

15.6 Royalty due the United States shall be computed as provided in the operating regulations and paid in value as to all Unutilized Substances on a percentage of the amounts thereof allocated to unutilized Federal land as provided herein at the royalty rate or rates specified in the respective Federal leases.

15.7 Nothing herein contained shall operate to relieve the lessees of any land from their respective lease obligations for the payment of any rental, minimum royalty, or royalty due under their leases.

#### ARTICLE XVI—OPERATIONS ON NONPARTICIPATING LAND

16.1 Any party hereto owning or controlling the Working Interest in any Unutilized Land having thereon a regular well location may, with the approval of the authorized officer and at such party's sole risk, costs, and expense, drill a well to test any formation of deposit for which a Participating Area has not been established or to test any formation or deposit for which a Participating Area has been established if such location is not within said Participating Area, unless within 30 days of receipt of notice from said party of his intention to drill the well, the Unit Operator or its authorized officer commences to drill such a well in like manner as other wells are drilled by the Unit Operator under this Agreement.

16.2 If any well drilled by a Working Interest Owner other than the Unit Operator proves that the land upon which said well is situated may properly be included in a Participating Area, such Participating Area

shall be established or enlarged as provided in this Agreement and the well shall thereafter be operated by the Unit Operator in accordance with the terms of this Agreement and the Unit Operating Agreement.

#### ARTICLE XVII—LEASES AND CONTRACTS CONFORMED AND EXTENDED

17.1 The terms, conditions, and provisions of all leases, subleases, and other contracts relating to exploration, drilling, development, or utilization of geothermal resources on lands committed to this Agreement, are hereby expressly modified and amended only to the extent necessary to make the same conform to the provisions hereof, otherwise said leases, subleases, and contracts shall remain in full force and effect.

17.2 The parties hereto consent that the Secretary shall, by his approval hereof, modify and amend the Federal lease or contract hereto and the regulations in respect thereto to the extent necessary to conform said leases and regulations to the provisions of this Agreement.

17.3 Development and/or operation of lands subject to this Agreement under the terms hereof shall be deemed full performance of any obligations for development and operation with respect to each and every separately owned tract subject to this Agreement, regardless of whether there is any development of any particular tract of the Unit Area.

17.4 Drilling and/or producing operations on lands covered by any lease or contract of Unutilized Lands will be accepted and deemed to be performed upon and for the benefit of each and every tract of Unutilized Land.

17.5 Suspension of operations and/or production on all Unutilized Lands pursuant to direction or consent of the Secretary or his duly authorized representative shall be deemed to constitute such suspension pursuant to such direction or consent as to each and every tract of Unutilized Land. A suspension of operations and/or production limited to specified lands shall be applicable only to such lands.

17.6 Subject to the provisions of Article XV hereof and 17.10 of this Article, each lease, sublease, or contract relating to the exploration, drilling, development, or utilization of geothermal resources of lands other than those of the United States committed to this Agreement, is hereby extended beyond any such term so provided therein so that it shall be continued for and during the term of this Agreement.

17.7 Subject to the lease renewal and the readjustment provision of the Act, any Federal lease committed hereto may, as to the Unutilized Lands, be continued for the term so provided therein, or as extended by law.

This subsection shall not operate to extend any lease or portion thereof as to lands excluded from the Unit Area by the transaction thereof.

17.8 Each sublease or contract relating to the operations and development of Unutilized Substances from lands of the United States committed to this Agreement shall be continued in force and effect for and during the term of the underlying lease.

17.9 Any Federal lease heretofore or hereafter committed to any such unit plan embracing lands that are in part within and in part outside of the area covered by any such plan shall be segregated into separate leases as to the lands committed and the lands not committed as of the effective date of unitization.

17.10 In the absence of any specific lease provision to the contrary, any lease, other than a Federal lease, having only a portion of its land committed hereto shall be segregated as to the portion committed and the portion not committed, and the provisions of such lease shall apply separately to such segregated portions commencing as of the effective date hereof. In the event any such lease provides for a lump-sum rental payment, such payment shall be prorated between the portions so segregated in proportion to the acreage of the respective tracts.

17.11 Upon termination of this Agreement, the leases covered hereby may be maintained and continued in force and effect in accordance with the terms, provisions, and conditions of the Act, the lease or leases, and amendments thereto.

#### ARTICLE XVIII—EFFECTIVE DATE AND TERM

18.1 This Agreement shall become effective upon approval by the Secretary or his duly authorized representative and shall terminate five (5) years from said effective date unless,

(a) Such date of expiration is extended by the Director, or

(b) Unutilized Substances are produced or utilized in commercial quantities in which event this Agreement shall continue for and during such Unutilized Substances are produced or utilized in commercial quantities, or

(c) This Agreement is terminated prior to the end of said five (5) year period as heretofore provided.

18.2 This Agreement may be terminated at any time by the owners of a majority of the Working Interest in an acreage basis, with the approval of the authorized officer. Notice of any such approval shall be given by the Unit Operator to all parties hereto.

#### ARTICLE XIX—APPEARANCES

19.1 Unit Operator shall, after notice to other parties affected, have the right to appear for and on behalf of any and all interests affected hereby before the Depart-

ment of the Interior, and to appeal from decisions, orders or rulings issued under the regulations of said Department, or to apply for relief from any of said regulations or in any proceedings relative to operations before the Department of the Interior or any other legally constituted authority: *Provided, however,* That any interested parties shall also have the right, at its own expenses, to be heard in any such proceeding.

#### ARTICLE XX—NO WAIVER OF CERTAIN RIGHTS

20.1 Nothing contained in this Agreement shall be construed as a waiver by any party hereto of the right to assert any legal or constitutional right or defense pertaining to the validity or invalidity of any law of the State wherein lands subject to this Agreement are located, or of the United States, or regulations issued thereunder, in any way affecting such party or as a waiver by any such party of any right beyond his or its authority to waive.

#### ARTICLE XXI—UNAVOIDABLE DELAY

21.1 The obligations imposed by this Agreement requiring Unit Operator to commence or continue drilling or to produce or utilize Unutilized Substances from any of the land covered by this Agreement, shall be suspended while, but only so long as, Unit Operator, despite the exercise of due care and diligence, is prevented from complying with such obligations, in whole or in part, by strikes, Acts of God, Federal or other applicable law, Federal authorized governmental agencies, unavoidable accidents, uncontrollable delays in transportation, inability to obtain necessary materials in open market or other market, or other matters beyond the reasonable control of the Unit Operator, whether similar to matters herein enumerated or not.

21.2 No unit obligation which is suspended under this section shall become due less than thirty (30) days after it has been determined that the suspension is no longer applicable.

21.3 Determination of creditable "Unavoidable Delay" time shall be made by the Unit Operator subject to approval of the authorized officer.

#### ARTICLE XXII—POSTPONEMENT OF OBLIGATIONS

22.1 Notwithstanding any other provisions of this Agreement, the Director, on his own initiative and upon appropriate justification by Unit Operator, may postpone any obligation established by and under this Agreement to commence or continue drilling or to operate on or produce Unutilized Substances from lands covered by this Agreement when in his judgment, circumstances warrant such action.

## ARTICLE XXIII—NONDISCRIMINATION

23.1 In connection with the performance of work under this Agreement, the Operator agrees to comply with all of the provisions of section 202 (1) to (7) inclusive, of Executive Order 11248 (30 FR 12319), as amended by Executive Order 11375 (32 FR 14303), which are hereby incorporated by reference in this Agreement.

## ARTICLE XXIV—COUNTERPARTS

24.1 This Agreement may be executed in any number of counterparts no one of which needs to be executed by all parties, or may be ratified or consented to by separate instruments in writing specifically referring hereto, and shall be binding upon all parties who have executed such a counterpart, ratification or consent hereto, with the force and effect as if all such parties had signed the same document.

## ARTICLE XXV—SUBSEQUENT JOINDER

25.1 If the owner of any substantial interest in geothermal resources under a tract within the Unit Area falls or refuses to subscribe or consent to this Agreement, the owner of the Working Interest in that tract may withdraw said tract from this Agreement by written notice delivered to the authorized officer and the Unit Operator prior to the approval of this Agreement by the authorized officer.

25.2 Any geothermal resources interests in lands within the Unit Area not interest in lands within the Unit Area prior to approval of this Agreement may thereafter be committed by the owner or owners thereof subscribing or consenting to this Agreement, and, if the interest is a Working Interest, by the owner of such interest also subscribing to the Unit Operating Agreement.

25.3 After operations are commenced hereunder, the right of subsequent joinder, as provided in this Article XXV, by a working interest Owner is subject to such requirements or approvals, if any, pertaining to such joinder, as may be provided for in the Unit Operating Agreement. Joinder to the Unit Agreement by a Working Interest Owner, at any time, must be accompanied by appropriate joinder to the Unit Operating Agreement, if more than one committed Working Interest Owner is involved, in order for the interest to be regarded as committed to this Unit Agreement.

25.4 After final approval hereof, joinder by a nonworking interest owner must be consented to in writing by the Working Interest Owner committed hereto and responsible for the payment of any benefits that may accrue hereunder in behalf of such nonworking interest. A nonworking interest may not be committed to this Agreement unless the corresponding Working Interest is committed hereto.

25.5 Except as may otherwise herein be provided, subsequent joinders to this Agreement shall be effective as of the first day of the month following the filing with the authorized officer of duly executed counterparts of all or any papers necessary to establish effective commitment of any tract to this Agreement unless objection to such joinder is duly made within sixty (60) days by the authorized officer.

## ARTICLE XXVI—COVENANTS RUN WITH THE LAND

26.1 The covenants herein shall be construed to be covenants running with the land with respect to the interest of the parties hereto and their successors in interest until this Agreement terminates, and, in the grant, transfer, or conveyance, of interest in land or leases subject hereto shall be and hereby is conditioned upon the assumption of all privileges and obligations hereunder by the assignee, transferee, or other successor in interest.

26.2 No assignment or transfer of any Working Interest or other interest subject hereto shall be binding upon Unit Operator until the first day of the calendar month after Unit Operator is furnished with the original, photostatic, or certified copy of the instrument of transfer.

## ARTICLE XXVII—NOTICES

27.1 All notices, demands or statements required hereunder to be given or rendered to the parties hereto shall be deemed fully given if given in writing and personally delivered to the party or sent by postpaid registered or certified mail, addressed to such party or parties at their respective addresses set forth in connection with the signatures hereto or to the ratification or consent hereto or to such other address as any such party may have furnished in writing to party sending the notice, demand or statement.

## ARTICLE XXVIII—LOSS OF TITLE

28.1 In the event title to any tract of Unutilized Land shall fall and the true owner cannot be induced to join in this Agreement, such tract shall be automatically regarded as not committed hereto and there shall be such readjustment of future costs and benefits as may be required on account of the loss of such title.

28.2 In the event of a dispute as to title as to any royalty, Working Interest, or other interests subject hereto, payment or delivery on account thereof may be withheld without liability for interest until the dispute is finally settled. Provided, That, as to Federal land or leases, no payments of funds due the United States shall be withheld, but such funds shall be deposited as

directed by the authorized officer to be held as unearned money pending final settlement of the title dispute, and then applied as earned or returned in accordance with such final settlement.

## ARTICLE XXIX—TAXES

29.1 The Working Interest Owners shall render and pay for their accounts and the accounts of the owners of nonworking interests all valid taxes on or measured by the Unutilized Substances in and under or that may be produced, gathered, and sold or utilized from the land subject to this Agreement after the effective date hereof.

29.2 The Working Interest Owners on each tract may charge a proper proportion of the taxes paid under 29.1 hereof to the owners of nonworking interests in said tract, and may reduce the allocated share of each royalty owner for taxes so paid. No taxes shall be charged to the United States or the State of — or to any lessor who has a contract with his lessee which requires the lessee to pay such taxes.

## ARTICLE XXX—RELATION OF PARTIES

30.1 It is expressly agreed that the relation of the parties hereto is that of independent contractors and nothing in this Agreement contained, expressed, or implied, nor any operations conducted hereunder, shall create or be deemed to have created a partnership or association between the parties hereto or any of them.

## ARTICLE XXXI—SPECIAL FEDERAL LEASE STIPULATIONS AND/OR CONDITIONS

31.1 Nothing in this Agreement shall modify special lease stipulations and/or conditions applicable to lands of the United States. No modification of the conditions necessary to protect the lands or functions of lands under the jurisdiction of any Federal agency is authorized except with prior official consent in writing whereby the authorizing agency specifies the modification permitted.

In witness whereof, the parties hereto have caused this Agreement to be executed and have set opposite their respective names the date of execution.

Unit operator (as unit operator and as working interest owner) \_\_\_\_\_

Witnesses: \_\_\_\_\_

Witnesses: \_\_\_\_\_

By \_\_\_\_\_

Working Interest Owners: \_\_\_\_\_

Witnesses: \_\_\_\_\_

By \_\_\_\_\_

Other Interest Owners: \_\_\_\_\_

By \_\_\_\_\_

[38 FR 35073, Dec. 21, 1973. Redesignated and amended at 48 FR 44792, 44793, Sept. 30, 1983]

**# 3286.1-1 Model Exhibit "A".**

EXHIBIT A—Bio Vapor Unit Area, T. 13 N., R. 10 W., M. D. M., California  
R. 1 W.

Hot Rock		Volcanics	Jameson
①	15	16	①
16			②
17			③
18			④
19			⑤
20			⑥
21			⑦
22			⑧
23			⑨
24			⑩
25			⑪
26			⑫
27			⑬
28			⑭
29			⑮
30			⑯
31			⑰
32			⑱
33			⑲
34			⑳
35			㉑
36			㉒
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127			63
128			64
129			65
130			66
131			67
132			68
133			69
134			70
135			71

① Means tract number as listed on Exhibit B

 PUBLIC LAND       STATE LAND       PATENTED LAND

[38 FR 35073, Dec. 21, 1973. Redesignated and amended at 48 FR 44792, 44794, Sept. 30, 1983]

¶ 3286.1-2 Model Exhibit "B".

EXHIBIT B—BIG VAPOR UNIT AREA, NAPA COUNTY, CALIF., T. 13 N., R. 10 W.

Tract No.	Description of land	Number of acres	Serial number and expiration date of lease	Basic royalty and ownership percentage	Lessee of record	Working interest and percentage
	<i>Federal land</i>	<i>acres</i>	<i>California</i>			
1	Sec. 14: All Sec. 15: All Sec. 23: Lots 1, 2, S¼, NE¼, E½NW¼	1,690.00	36470 7-31-82	United States: All	Volcanics, Inc.	Volcanics, Inc: All
2	Sec. 35: All	640.00	39123 7-31-82	do	D. H. Boller	Hot Rock Co.: All
3	Sec. 21: All	1,280.00	41345	do	C. S. Waters—50%	Volcanics Co.: 50%
3	Sec. 28: All	1,280.00	7-31-81	do	D. F. Mann—50%	Hot Rock Co.: 50%
4	Sec. 21: All	1,280.00	41879	do	H. C. Pipes	Fumarole, Ltd.: All
4	Sec. 33: All			do		
5	Sec. 29: All Sec. 25: S¼	961.50	71276	do	Hot Rock Co.	Hot Rock Co.: All
			8-31-82 83970			
8	Sec. 24: All	965.80			H. C. Pipes	Do.

## Bureau of Land Management, Interior

EXHIBIT B—BIG VAPOR UNIT AREA, NAPA COUNTY, CALIF., T. 13 N., R. 10 W.—Continued

[illegible]

[38 FR 35073, Dec. 21, 1973. Redesignated and amended at 48 FR 44792, 44794. Sent. 30 1983]

**§ 3286.2 Model unit bond.**

**COLLECTIVE CORPORATE SURETY**

Know all men by these presents, That we, \_\_\_\_\_ (Name of Unit Operator) signing as Principal, for and on behalf of the record owners of unitized substances now or hereafter covered by the unit agreement for this \_\_\_\_\_ (Name of Unit) approved \_\_\_\_\_, (Date) \_\_\_\_\_ (Name and address of Surety) as Surety are jointly and severally held and firmly bound unto the United States of America in the sum of \_\_\_\_\_ Dollars, (\_\_\_\_\_ amount of bond) for the use and benefit of and to be paid to the United States and any entryman or patentee of any portion of the unitized land, heretofore entered or patented with the reservation of the geothermal resources deposited in the United States, for which payment we truly and by us made, we bind ourselves, and each of us, and each of our heirs, executors, administrators, successors, and assigns by these presents.

The condition of the foregoing obligation is such that, whereas the Secretary on \_\_\_\_\_ (Date) approved under the provisions of the Geothermal Steam Act of 1970, a unit agreement for the development and operation of the \_\_\_\_\_ (Name of Unit and State); and

Whereas said Principal and record owners of unitized substances, pursuant to said unit agreement, have entered into certain covenants and agreements as set forth therein, under which operations are to be conducted; and

Whereas said Principal as Unit Operator has assumed the duties and obligations of the respective owners of unitized substances as defined in said unit agreement; and

Whereas said Principal and surety agree to remain bound in the full amount of the bond for failure to comply with the terms of the unit agreement, and the payment of rentals, minimum royalties, and royalties due under the Federal leases committed to said unit agreement; and

Whereas the Surety hereby waives any right of notice of and agrees that this bond may remain in force and effect notwithstanding:

(8) Any additions to or change in the ownership of the unitized substances herein described.

(b) Any suspension of the drilling or producing requirements or waiver, suspension or reduction of rental or minimum royalty payments or reduction of royalties pursuant to applicable laws or regulations thereunder; and

Whereas said Principal and Surety agree to the payment of compensatory royalty under the regulations of the Interior De-



partment in lieu of drilling necessary offset wells in the event of drainage; and

Whereas nothing herein contained shall preclude the United States from requiring an additional bond at any time when deemed necessary;

Now, therefore, if the said Principal shall faithfully comply with all of the provisions of the above-identified unit agreement and with the terms of the lease committed thereto, then the above obligations be to be of no effect; otherwise to remain in full force and virtue.

Signed, sealed, and delivered this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, in the presence of:  
Witnesses:

(Principal)

(Surety)

(38 FR 35073, Dec. 21, 1973. Redesignated and amended at 48 FR 44792, 44794, Sept. 30, 1983)

#### § 3286.3 Model designation of successor operator.

Designation of successor Unit Operator \_\_\_\_\_, Unit Area, County of \_\_\_\_\_, State of \_\_\_\_\_, No. \_\_\_\_\_.

This Indenture, dated as of the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, by and between \_\_\_\_\_, hereinafter designated as "First Party," and the owners of unitized working interest, hereinafter designated as "Second Parties."

Witnesseth: Whereas under the provisions of the Geothermal Steam Act of December 24, 1970, 84 Stat. 1566, the Secretary on \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, approved a unit agreement for the \_\_\_\_\_ Unit Area, wherein \_\_\_\_\_ is designated as Unit Operator; and

Whereas said \_\_\_\_\_ has resigned as such Operator; and the designation of a successor Unit Operator is now required pursuant to the terms thereof; and

Whereas First Party has been and hereby is designated by Second Parties as a Unit Operator, and said First Party desires to assume all the rights, duties, and obligations of Unit Operator under the said unit agreement.

Now, therefore, in consideration of the premises hereinafter set forth and the promises hereinafter stated, the First Party hereby covenants and agrees to fulfill the duties and assume the obligations of Unit

<sup>1</sup>Where the designation of a successor Unit Operator is required for any reason other than resignation, such reason shall be substituted for the one stated.

Operator under and pursuant to all the terms of the \_\_\_\_\_ unit agreement, and the Second Parties covenant and agree that, effective upon approval of this Indenture by the authorized officer of the Minerals Management Service, First Party shall be granted the exclusive right and privilege of exercising any and all rights and privileges and Unit Operator, pursuant to the terms and conditions of said unit agreement, and unit agreement hereby incorporated herein by reference and made a part hereof as fully and effectively, as though said unit agreement were expressly set forth in this instrument.

In witness whereof, the parties hereto have executed this instrument as of the date hereinafter set forth.

(First Party)

(Witnesses)

(Second Party)

(Witnesses)

I hereby approve the foregoing Indenture designating \_\_\_\_\_ as Unit Operator under the unit agreement for the \_\_\_\_\_ Unit Area, this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_.

Authorized Officer,  
Bureau of Land Management.

(38 FR 35073, Dec. 21, 1973. Redesignated and amended at 48 FR 44792, 44794, Sept. 30, 1983)

#### § 3286.4 Model change of operator by assignment.

Change in Unit Operator \_\_\_\_\_ unit Area, County of \_\_\_\_\_, State of \_\_\_\_\_, No. \_\_\_\_\_.

This Indenture, dated as of the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, by and between \_\_\_\_\_, hereinafter designated as "First Party," and \_\_\_\_\_, hereinafter designated as "Second Party."

Witnesseth: Whereas under the provisions of the Geothermal Steam Act of December 24, 1970, 84 Stat. 1566, the Secretary on \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, approved a unit agreement for the \_\_\_\_\_ Unit Area, wherein the First Party is designated as Unit Operator; and

Whereas the First Party desires to transfer, assign, release, and quitclaim, and the Second Party desires to assume all the

#### Bureau of Land Management, Interior

rights, duties, and obligations of Unit Operator under the unit agreement; and

Whereas for sufficient and valuable consideration, the receipt whereof is hereby acknowledged, the First Party has transferred, conveyed and assigned all his/her rights under certain operating agreements involving lands within the area set forth in said unit agreement with the Second Party;

Now, therefore, in consideration of the premises hereinafter set forth, the First Party does hereby transfer, assign, release, and quitclaim unto Second Party all of First Party's rights, duties and obligations as Unit Operator under said unit agreement; and

Second Party hereby accepts this assignment and hereby covenants and agrees to fulfill the duties and assume the obligations of Unit Operator under and pursuant to all the terms of said unit agreement to the full extent set forth in this assignment, effective upon approval of this Indenture by the authorized officer of the Minerals Management Service; said unit agreement being hereby incorporated herein by reference and made a part hereof as fully and effectively as though said unit agreement were expressly set forth in this instrument.

In witness whereof, the parties hereto have executed this instrument as of the date hereinafter set forth.

(First Party)

(Witnesses)

(Second Party)

(Witnesses)

I hereby approve the foregoing Indenture designating \_\_\_\_\_ as Unit Operator under the unit agreement for the \_\_\_\_\_ Unit Area, this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_.

Authorized Officer,  
Bureau of Land Management.

(38 FR 35073, Dec. 21, 1973. Redesignated and amended at 48 FR 44792, 44794, Sept. 30, 1983)

#### Group 3400—Coal Management

Note: The information collection requirements contained in Parts 3400, 3410, 3420, 3430, 3450, 3480 and 3470 of Group 3400 have been approved by the Office of Management and Budget under 44 U.S.C. 3507 and assigned number 1004-0073. The information is being collected to allow

the authorized officer to determine if the applicant to lease, for or develop Federal coal is qualified to hold such lease. This information will be used in making those determinations. The obligation to respond is required to obtain a benefit.  
(41 FR 33133, July 30, 1982)

#### PART 3400—COAL MANAGEMENT—GENERAL

##### Subpart 3400—Introduction—General

- Sec.
- 3400.0-3 Authority.
- 3400.0-3 Definitions.
- 3400.1 Multiple development.
- 3400.2 Lands subject to lease.
- 3400.3 Limitations on authority to lease.
- 3400.3-1 Consent or conditions of surface management agency.
- 3400.3-2 Department of Defense lands.
- 3400.3-3 Department of Agriculture lands.
- 3400.3-4 Trust protection lands.
- 3400.4 Federal/state government cooperation.
- 3400.5 Coal production regions.
- 3400.6 Minimum comment period.

**AUTHORITY:** The Mineral Leasing Act of 1920, as amended and supplemented (30 U.S.C. 181 et seq.), the Mineral Leasing Act for Acquired Lands of 1947, as amended (30 U.S.C. 351-350), the Multiple Mineral Development Act of 1954 (30 U.S.C. 521-531 et seq.), the Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. 1201 et seq.), the Department of Energy Organization Act of 1977 (42 U.S.C. 710 et seq.) and the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.).

**Source:** 44 FR 42609, July 19, 1979, unless otherwise noted.

##### Subpart 3400—Introduction—General

###### § 3400.0-3 Authority.

(a) These regulations are issued under the authority of and to implement provisions of:

(1) The Mineral Leasing Act of February 25, 1920, as amended (30 U.S.C. 181 et seq.).

(2) The Mineral Leasing Act for Acquired Lands of August 7, 1947, as amended (30 U.S.C. 351-359 et seq.).

(3) The Federal Land Policy and Management Act of 1976, October 21, 1976 (43 U.S.C. 1701 et seq.).

(4) The Surface Mining Control and Reclamation Act of 1977, August 3, 1977 (30 U.S.C. 1201 et seq.).

EXHIBIT A—BIG VAPOR UNIT AREA T 13 N, R 10 W, M D M, California  
R 1 W

<p>Hot Rock</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p> <p>26</p> <p>27</p> <p>28</p> <p>29</p> <p>30</p> <p>31</p> <p>32</p> <p>33</p> <p>34</p> <p>35</p> <p>36</p> <p>37</p> <p>38</p> <p>39</p> <p>40</p> <p>41</p> <p>42</p> <p>43</p> <p>44</p> <p>45</p> <p>46</p> <p>47</p> <p>48</p> <p>49</p> <p>50</p> <p>51</p> <p>52</p> <p>53</p> <p>54</p> <p>55</p> <p>56</p> <p>57</p> <p>58</p> <p>59</p> <p>60</p> <p>61</p> <p>62</p> <p>63</p> <p>64</p> <p>65</p> <p>66</p> <p>67</p> <p>68</p> <p>69</p> <p>70</p> <p>71</p> <p>72</p> <p>73</p> <p>74</p> <p>75</p> <p>76</p> <p>77</p> <p>78</p> <p>79</p> <p>80</p> <p>81</p> <p>82</p> <p>83</p> <p>84</p> <p>85</p> <p>86</p> <p>87</p> <p>88</p> <p>89</p> <p>90</p> <p>91</p> <p>92</p> <p>93</p> <p>94</p> <p>95</p> <p>96</p> <p>97</p> <p>98</p> <p>99</p> <p>100</p>	<p>Hot Rock</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p> <p>26</p> <p>27</p> <p>28</p> <p>29</p> <p>30</p> <p>31</p> <p>32</p> <p>33</p> <p>34</p> <p>35</p> <p>36</p> <p>37</p> <p>38</p> <p>39</p> <p>40</p> <p>41</p> <p>42</p> <p>43</p> <p>44</p> <p>45</p> <p>46</p> <p>47</p> <p>48</p> <p>49</p> <p>50</p> <p>51</p> <p>52</p> <p>53</p> <p>54</p> <p>55</p> <p>56</p> <p>57</p> <p>58</p> <p>59</p> <p>60</p> <p>61</p> <p>62</p> <p>63</p> <p>64</p> <p>65</p> <p>66</p> <p>67</p> <p>68</p> <p>69</p> <p>70</p> <p>71</p> <p>72</p> <p>73</p> <p>74</p> <p>75</p> <p>76</p> <p>77</p> <p>78</p> <p>79</p> <p>80</p> <p>81</p> <p>82</p> <p>83</p> <p>84</p> <p>85</p> <p>86</p> <p>87</p> <p>88</p> <p>89</p> <p>90</p> <p>91</p> <p>92</p> <p>93</p> <p>94</p> <p>95</p> <p>96</p> <p>97</p> <p>98</p> <p>99</p> <p>100</p>	<p>Hot Rock</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p> <p>26</p> <p>27</p> <p>28</p> <p>29</p> <p>30</p> <p>31</p> <p>32</p> <p>33</p> <p>34</p> <p>35</p> <p>36</p> <p>37</p> <p>38</p> <p>39</p> <p>40</p> <p>41</p> <p>42</p> <p>43</p> <p>44</p> <p>45</p> <p>46</p> <p>47</p> <p>48</p> <p>49</p> <p>50</p> <p>51</p> <p>52</p> <p>53</p> <p>54</p> <p>55</p> <p>56</p> <p>57</p> <p>58</p> <p>59</p> <p>60</p> <p>61</p> <p>62</p> <p>63</p> <p>64</p> <p>65</p> <p>66</p> <p>67</p> <p>68</p> <p>69</p> <p>70</p> <p>71</p> <p>72</p> <p>73</p> <p>74</p> <p>75</p> <p>76</p> <p>77</p> <p>78</p> <p>79</p> <p>80</p> <p>81</p> <p>82</p> <p>83</p> <p>84</p> <p>85</p> <p>86</p> <p>87</p> <p>88</p> <p>89</p> <p>90</p> <p>91</p> <p>92</p> <p>93</p> <p>94</p> <p>95</p> <p>96</p> <p>97</p> <p>98</p> <p>99</p> <p>100</p>	<p>Hot Rock</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p> <p>26</p> <p>27</p> <p>28</p> <p>29</p> <p>30</p> <p>31</p> <p>32</p> <p>33</p> <p>34</p> <p>35</p> <p>36</p> <p>37</p> <p>38</p> <p>39</p> <p>40</p> <p>41</p> <p>42</p> <p>43</p> <p>44</p> <p>45</p> <p>46</p> <p>47</p> <p>48</p> <p>49</p> <p>50</p> <p>51</p> <p>52</p> <p>53</p> <p>54</p> <p>55</p> <p>56</p> <p>57</p> <p>58</p> <p>59</p> <p>60</p> <p>61</p> <p>62</p> <p>63</p> <p>64</p> <p>65</p> <p>66</p> <p>67</p> <p>68</p> <p>69</p> <p>70</p> <p>71</p> <p>72</p> <p>73</p> <p>74</p> <p>75</p> <p>76</p> <p>77</p> <p>78</p> <p>79</p> <p>80</p> <p>81</p> <p>82</p> <p>83</p> <p>84</p> <p>85</p> <p>86</p> <p>87</p> <p>88</p> <p>89</p> <p>90</p> <p>91</p> <p>92</p> <p>93</p> <p>94</p> <p>95</p> <p>96</p> <p>97</p> <p>98</p> <p>99</p> <p>100</p>
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① Means tract number as listed on Exhibit B

 PUBLIC LAND     STATE LAND     PATENTED LAND

[38 FR 35073, Dec. 21, 1973. Redesignated and amended at 48 FR 44792, 44794, Sept. 30, 1983]

§ 3286.1-2 Model Exhibit "B".

EXHIBIT B—BIG VAPOR UNIT AREA, NAPA COUNTY, CALIF., T. 13 N., R. 10 W.

Tract No.	Description of land	Number of acres	Serial number and expiration date of lease	Basic royalty and ownership percentage	Lessee of record	Working interest and percentage
	<i>Federal land</i>	<i>acres</i>	<i>California</i>			
1	Sec. 14: All Sec. 15: All Sec. 23: Lots 1, 2, S 1/4, NE 1/4, E 1/4 NW 1/4	1,890.00	38470 7-31-62	United States: All	Volcanics, Inc.	Volcanics, Inc: All
2	Sec. 35: All	640.00	39123 7-31-62	do	D. H. Bolter	Hot Rock Co.: All
3	Sec. 21: All	1,260.00	41345 7-31-61	do	C. S. Waters—50% D. F. Mann—50%	Volcanics, Co.: 50% Hot Rock Co.: 50%
4	Sec. 27: All Sec. 33: All	1,260.00	41679	do	H. C. Pipes	Fumarole, Ltd.: All
5	Sec. 26: All Sec. 25: S 1/4	961.50	71278	do	Hot Rock Co.	Hot Rock Co.: All
6	Sec. 24: All	965.80	9-31-82 63870	do	H. C. Pipes	Do.

## Bureau of Land Management, Interior

EXHIBIT B—BIG VAPOR UNIT AREA, NAPA COUNTY, CALIF., T. 13 N., R. 10 W.—Continued

[illegible]

Total—11 tracts 10, 249.10 acres in entire unit area

(38 FR 35073, Dec. 21, 1973. Redesignated and amended at 48 FR 44792, 44794, Sept. 30, 1983)

§ 3286.2 Model unit bond.

**COLLECTIVE CORPORATE SURETY**

Know all men by these presents, That we, \_\_\_\_\_ (Name of Unit Operator) signing as Principal, and on behalf of the record owner of, unmined substances now or hereafter covered by the unit agreement for this \_\_\_\_\_ (Name of Unit) approved \_\_\_\_\_, (Date) \_\_\_\_\_ (Name and address of Surety) as Surety are jointly and severally held and firmly bound unto the United States of America in the sum of \_\_\_\_\_ Dollars, lawful money of the United States, for the use and benefit of said \_\_\_\_\_, the United States and any entryman or patentee of any portion of the unmined land, heretofore entered or patented with the reservation of the geothermal resources deposited in the United States, for which payment well and truly to be made, we bind ourselves, and each of us, and each of our heirs, executors, administrators, successors, and assigns by these presents.

The condition of the foregoing obligation is such that, whereas the Secretary on \_\_\_\_\_ (Date) approved under the provisions of the Geothermal Steam Act of 1970, a unit agreement for the development and operation of the \_\_\_\_\_ (Name of Unit and State); and

Whereas said Principal and record owners of untitled substances, pursuant to said unit agreement, have entered into certain covenants and agreements as set forth therein, under which operations are to be conducted; and

Whereas said Principal as Unit Operator has assumed the duties and obligations of the respective owners of unitized substances as defined in said unit agreement;

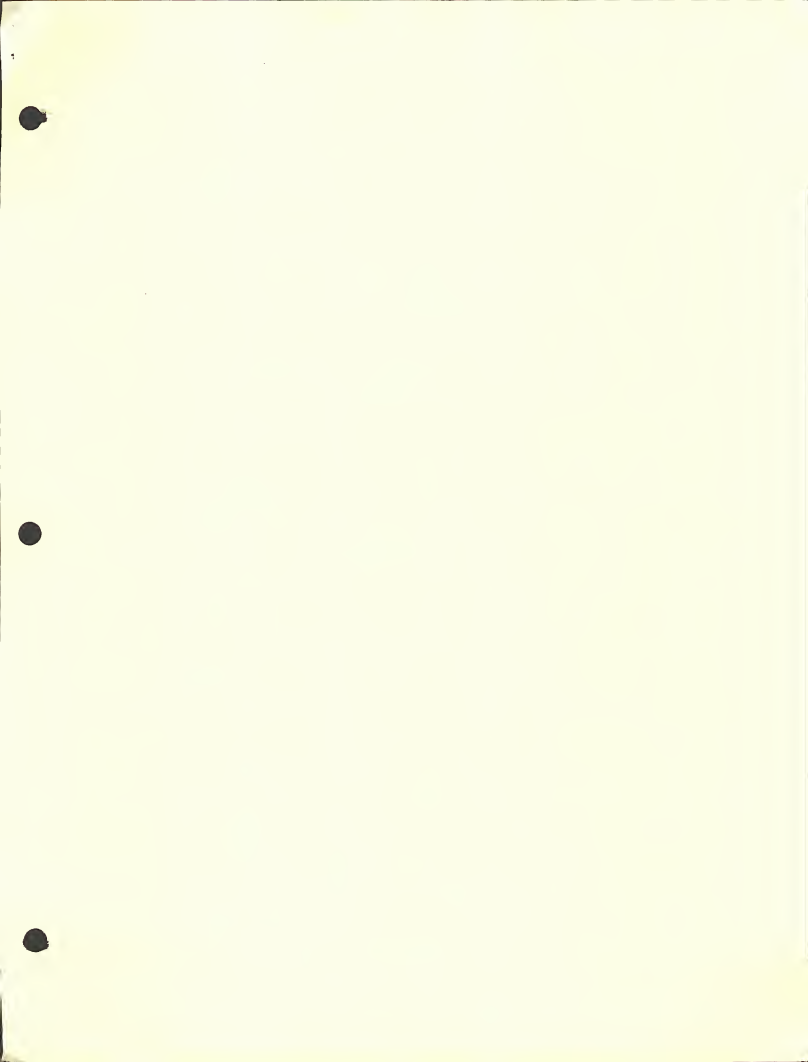
Whereas said Principal and surety agree to remain bound in the full amount of the bond for failure to comply with the terms of the unit agreement, and the payment of rentals, minimum royalties, and royalties due under the Federal leases committed to said unit agreement; and

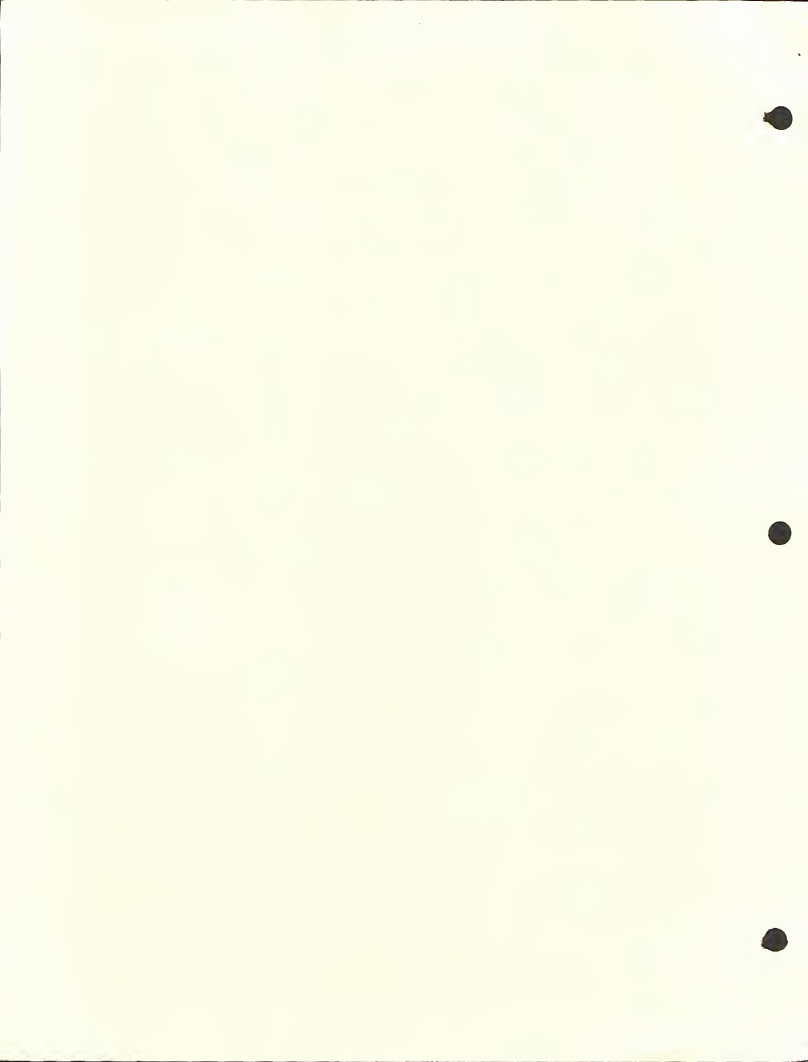
Whereas the Surety hereby waives any right of notice of and agrees that this bond may remain in force and effect notwithstanding:

(a) Any additions to or change in the ownership of the untized substances herein described.

(b) Any suspension of the drilling or producing requirements or waiver, suspension or reduction of rental or minimum royalty payments or reduction of royalties pursuant to applicable laws or regulations thereunder; and

Whereas said Principal and Surety agree to the payment of compensatory royalty under the regulations of the Interior De-





## DEPARTMENT OF THE INTERIOR

Bureau of Land Management  
Minerals Management Service

43 CFR Parts 3260 and 3280

30 CFR Parts 270 and 271

[Circular No. 2536]

Geothermal Resources Operations—  
General; Redesignation of RegulationsUPDATED CFR REFERENCES  
FOR APPENDIX II - GPO  
ORDERS 1 through 6

Under the authority of Secretarial Order 3087, December 3, 1982, as amended on February 7, 1983 (48 FR 8983), and the statutory authorities enumerated at each part, Group 3200, Subchapter C, Chapter II of Title 43 of the Code of Federal Regulations is amended as set forth below.

1. 30 CFR Part 270 is redesignated as 43 CFR Part 3260 as shown in the following redesignation table:

REDESIGNATION TABLE

Old 30 CFR Part 270	New 43 CFR Part 3260
270.1 (First sentence).	Insert new part 3260—Geothermal Resources Operations.
270.1 (Second sentence).	270.1-1 Purpose.
270.2	3260.0-2 Policy.
270.2-1	Insert new section 3260.0-3 Authority.
270.10	3261.1
270.11	3261.2
270.12	3261.3
270.13	3261.4
270.14	3261.5
270.15	3261.6
270.16	3261.7
270.17	3261.8
270.30	Insert new Subpart 3262—Requirements for Lessees.
270.31	3262.1
270.32	3262.2
270.33	3262.3
270.34	3262.4
270.35	3262.5
270.36	3262.6
270.37	3262.7
270.38	3262.8
270.39	3262.9
270.40	3262.10
270.41	3262.11
270.42	3262.12
270.43	3262.13
270.44	3262.14
270.45	3262.15
270.46	3262.16
270.47	3262.17
270.48	3262.18
270.50(b)	3262.9 Pilot operations or facility testing.
270.60	Insert new Subpart 3263—Measurement of Production.
270.61	3263.1
270.62	3263.2
270.64	3263.3
270.70	Insert new Subpart 3264—Reports To Be Made by All Lessees.
270.71	3264.1
270.71-1	3264.2
270.71-1-1	3264.2-1.

REDESIGNATION TABLE—Continued

Old 30 CFR Part 270	New 43 CFR Part 3260
270.72	3264.2-2.
270.73	3264.2-3.
270.74	3264.2-4.
270.74-1	3264.2-4-1.
270.76	Removed.
270.77	3264.3.
270.78	3264.4.
270.79	3264.5.
	Insert new Subpart 3265—Procedure in Case of Violation of the Regulations or Lease Terms.
270.80	3265.1.
	Insert new subpart 3266—Appeals.
270.90	3266.1.

2. Section 3260.0-1, formerly the first sentence of 30 CFR 270.1, is revised to read:

**§ 3260.0-1 Purpose.**

The Geothermal Steam Act (30 U.S.C. 1001-1025) authorizes the Secretary of the Interior to prescribe rules and regulations applicable to operations conducted under leases granted pursuant to that Act, and for the development, conservation and utilization of geothermal steam and associated geothermal resources, the prevention of waste, the protection of the public interest and the protection of water quality and other environmental qualities.

3. Section 3260.0-2, formerly the second sentence of 30 CFR 270.1, is revised to read:

**§ 3260.0-2 Policy.**

The regulations in this part shall be administered by the Director, Bureau of Land Management.

4. Section 3260.0-3 is added to read as follows:

**§ 3260.0-3 Authority.**

These regulations are issued under the authority of the Geothermal Steam Act, as amended (30 U.S.C. 1001-1025) and Order Number 3087, dated December 3, 1982, as amended on February 7, 1983 (48 FR 8983), under which the Secretary consolidated and transferred the onshore minerals management functions of the Department, except mineral revenue functions and the leasing of restricted Indian lands, to the Bureau of Land Management.

5. Part 3260 is amended by inserting immediately after the part heading two "Notes" to read:

Note: The information collection requirements contained in Part 3260 have been approved by the Office of Management and Budget under 44 U.S.C. 3507 and assigned clearance numbers 1004-0132 and 1004-0141. The information is being collected to evaluate the technical feasibility and environmental impacts of geothermal operations on Federal lands. Clearance number 1004-0141 covers information required by section 3264.3 and is required to document exploration expenditures for which diligence credit is desired in accordance with section 3203.5. A response is required to obtain a benefit.

Note: There are many leases and agreements currently in effect, and which will remain in effect, involving Federal geothermal resources leases which specifically refer to the United States Geological Survey, USGS, Minerals Management Service, MMS, or Conservation Division. These leases and agreements may also specifically refer to various officers such as Supervisor, Conservation Manager, Deputy Conservation Manager, Minerals Manager, and Deputy Minerals Manager. In addition, many leases and agreements specifically refer to Title 30 CFR Part 270 or specific sections thereof. Those references must now be read in the context of Secretarial Order 3087 and now mean either the Bureau of Land Management or the Minerals Management Service as appropriate.

**§ 3260.0-5 (Amended)**

6. Section 3260.0-5, formerly 30 CFR 270.2, is amended as follows:

A. Paragraphs (a) through (d) are removed in their entirety;

B. Paragraphs (e) and (f) are redesignated as paragraphs (a) and (b), respectively;

C. Paragraphs (g), (h) and (i) are removed in their entirety;

D. Paragraphs (j) through (n) are redesignated as paragraphs (c), (d), (e), (f) and (g), respectively;

E. Paragraph (e), formerly paragraph (1), is amended by removing the phrase "Supervisor, with the prior approval of the Director, Minerals Management Service" and replacing it with the phrase "authorized officer, with the prior approval of the Director.":

F. Paragraph (o) is removed in its entirety; and

G. Paragraphs (p) through (w) are redesignated as paragraphs (h), (i), (j), (k), (l), (m), (n) and (o), respectively.

7. Section 3261.1, formerly 30 CFR 270.10, is revised to read:

**§ 3261.1 Jurisdiction.**

Drilling, production, construction, and operation of any facility for the utilization of geothermal resources and handling and measurement of production, and, in general, all operations conducted on a geothermal lease are subject to the regulations in this group. These operations are subject to the jurisdiction of the authorized officer for the area in which the leased lands are situated.

8. Section 3261.2, formerly 30 CFR 270.11, is revised to read:

**§ 3261.1 Responsibility of authorized officer.**

The authorized officer is authorized and directed to carry out the provisions of this part. The authorized officer shall require compliance with the terms of geothermal leases, with the regulations in this group and with the applicable statutes. The authorized officer shall act on all applications, requests, and notices required in this part. In executing the functions under this part, the authorized officer shall ensure that all permitted operations conform to the best practice and are conducted in a manner that protects the deposits of the leased lands and results in the maximum ultimate recovery and the beneficial utilization of geothermal resources, with minimum waste. The authorized officer shall also ensure that all permitted operations are consistent with the principles of the use of the lands for other purposes and the protection of the environment. As conditions in one area may vary widely from conditions in another area, the regulations in this part are intended to be general in nature. Detailed procedures hereunder in any particular area will be covered by GRO Orders. The requirements to be set forth in GRO Orders relating to surface resources or uses will be coordinated with the appropriate land management agency if other than BLM. The authorized officer may issue oral orders to govern lease operations, but such orders shall be confirmed in writing by the authorized officer as promptly as possible. The authorized officer may issue other orders and instructions to govern the development, method for production and the utilization of a deposit, field or area. Prior to issuance of GRO Orders, other written orders and instructions, or the approval of any plan of operation, the

authorized officer shall consult with and receive comments from appropriate Federal and State agencies, lessees, operators and other interested parties. Before permitting operations to be commenced on the leased lands, the authorized officer shall determine if the lease is in good standing; whether the applicant is authorized to conduct the proposed operations; has filed an acceptable bond, and has, when required by the regulations in this part, an approved plan of operations and/or plan of utilization, notice of intent, Sundry Notice or other appropriate permit.

**§ 3261.3 [Amended]**

9. Section 3261.3, formerly 30 CFR 270.12, is amended by:

A. Amending paragraph (a)(2) by removing the word "Supervisor" and replacing it with the phrase "authorized officer" and by amending paragraph (a)(3) by removing the citation "§ 270.80" and replacing it with the citation "§ 3265.1"; and

B. Amending paragraph (b) by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer", by removing the citation "§ 270.34-1 of this part" and replacing it with the citation "§ 3262.4-1 of this title", amending paragraph (b)(2) by removing the word "Supervisor" and replacing it with the word "authorized officer", amending paragraph (b)(3) by removing the word "Supervisor" and replacing it with the phrase "authorized officer" and amending paragraph (b)(4) by removing the citation "§ 270.79 of this part" and replacing it with the citation "§ 3264.5 of this title" and by removing the word "Supervisor" and replacing it with the phrase "authorized officer".

**§ 3261.4 [Amended]**

10. Section 3261.4, formerly 30 CFR 270.13, is amended by removing the word "Supervisor" and replacing it with the phrase "authorized officer".

**§ 3261.5 [Amended]**

11. Section 3261.5, formerly 30 CFR 270.14, is amended by removing in two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer" and by removing the phrase "part and 43 CFR Group 3200;" and replacing it with the word "group".

**§ 3261.6 [Amended]**

12. Section 3261.6, formerly 30 CFR 270.15, is amended by removing the word "Supervisor" and replacing it with the phrase "authorized officer".

**§ 3261.7 [Amended]**

13. Section 3261.7, formerly 30 CFR 270.16, is amended by removing the word "Supervisor" and replacing it with the phrase "authorized officer".

**§ 3261.8 [Amended]**

14. Section 3261.8, formerly 30 CFR 270.17, is amended by:

A. Amending paragraph (a) by removing the word "Supervisor" and replacing it with the phrase "authorized officer".

B. Amending paragraph (b) by removing the word "Supervisor" and replacing it with the phrase "authorized officer".

C. Amending paragraph (c) by removing the word "Supervisor" and replacing it with the phrase "authorized officer"; and

D. Amending paragraph (d) by removing the word "Supervisor" and replacing it with the phrase "authorized officer".

**§ 3262.1 [Amended]**

15. Section 3262.1, formerly 30 CFR 270.30, is amended by:

A. Amending paragraph (a) by removing the word "Supervisor" and replacing it with the phrase "authorized officer" and by removing the citation "§ 270.11" and replacing it with the citation "§ 3261.2 of this title"; and

B. Amending paragraph (c) by removing the word "Supervisor" and replacing it with the phrase "authorized officer".

**§ 3262.2 [Amended]**

16. Section 3262.2, formerly 30 CFR 270.31, is amended by:

A. Amending paragraph (a) by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer"; and

B. Amending paragraph (b) by removing in the three places it appears the word "Supervisor" and replacing it with the phrase "authorized officer" and by removing the citation "§ 270.34-1 of this part" and replacing it with the citation "§ 3262.4-1 of this title" and by removing the citation "43 CFR Group 3200;" and replacing it with the phrase "the regulations in this group".

**§ 3262.2-1 [Amended]**

17. Section 3262.2-1, formerly 30 CFR 270.32, is amended by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer".

**§ 3262.3 [Amended]**

18. Section 3262.3, formerly 30 CFR 270.33, is amended by:



A. Amending paragraph (a) by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer" and by removing the citation "43 CFR 3204.5" and replacing it with the citation "§ 3203.8 of this title"; and

B. Amending paragraph (b) by removing the word "Supervisor" and replacing it with the phrase "authorized officer".

19. Section 3262.4, formerly 30 CFR 270.34, is amended by:

A. Revising the introductory paragraph to read:

**§ 3262.4 Plan of operation.**

"Except as otherwise provided in these regulations, a lessee, prior to commencing operations on the leased lands or on lands subject to an approved unit or cooperative agreement, shall obtain the approval of a plan of operation by the authorized officer. A plan of operation is not required for: Subsequent well operations, the construction of new production facilities, or the alteration of existing production facilities, unless specifically required by the authorized officer, exploration operations or casual use activities. However, unless a previously approved plan included a specific authorization for subsequent well operations, construction of new production facilities, alteration of existing production facilities or exploration operations, the lessee may not conduct such operations or activities without the authorized officer's prior approval. Before commencing a subsequent well operation, the construction of a new production facility or the alteration of an existing production facility, the lessee shall, as a minimum, obtain the authorized officer's approval of a permit or of a sundry notice, whichever is appropriate. Before commencing exploration operations, the lessee shall obtain the authorized officer's approval of a notice of intent. When a plan of operation is required by the regulations in this part, it shall be filed in triplicate with the authorized officer and shall include:

• • • • •

B. Amending paragraph (i) by removing the word "Supervisor" and replacing it with the phrase "authorized officer"; and

C. Amending the closing paragraph by removing in the four places it appears the word "Supervisor" and replacing it with the phrase "authorized officer" and by removing the citation "§ 270.79 of this part" and replacing it with the citation "§ 3264.5 of this title."

**§ 3264.4-1 [Amended]**

20. Section 3264.4-1, formerly 30 CFR 270.34-1, is amended by:

A. Amending the opening paragraph by removing the word "Supervisor" in the three places it appears and replacing it with the phrase "authorized officer";

B. Amending paragraph (a) by removing the citation "§ 270.71-1 of this part" and replacing it with the citation "§ 3264.2-1 of this title";

C. Amending paragraph (c) by removing the word "Supervisor" and replacing it with the phrase "authorized officer";

D. Amending paragraph (i) by removing the word "Supervisor" and replacing it with the phrase "authorized officer";

E. Amending paragraph (j) by removing the word "Supervisor" and replacing it with the phrase "authorized officer";

F. Amending paragraph (k) by removing the citation "Title 43 Group 3200," and replacing it with the phrase "this group."; and

G. Amending the final paragraph of the section by removing the citation "§ 270.79 of this part" and replacing it with the citation "§ 3264.5 of this title" and by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer".

**§ 3262.4-2 [Amended]**

21. Section 3262.4-2, formerly 30 CFR 270.35, is amended by removing in the six places it appears the word "Supervisor" and replacing it with the phrase "authorized officer".

**§ 3262.5-1 [Amended]**

22. Section 3262.5-1, formerly 30 CFR 270.37, is amended by:

A. Amending paragraph (a) by removing the word "Supervisor" and replacing it with the phrase "authorized officer";

B. Amending paragraph (b) by removing the word "Supervisor" and replacing it with the phrase "authorized officer"; and

C. Amending paragraph (c) by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer".

**§ 3262.5-2 [Amended]**

23. Section 3262.5-2, formerly 270.38, is amended by:

A. Amending paragraph (a) by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer"; and

B. Amending paragraph (b) by removing the word "Supervisor" and

replacing it with the phrase "authorized officer".

**§ 3262.5-3 [Amended]**

24. Section 3262.5-3, formerly 30 CFR 270.39, is amended by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer".

**§ 3262.6 [Amended]**

25. Section 3262.6, formerly 30 CFR 270.41, is amended by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer".

**§ 3262.6-1 [Amended]**

26. Section 3262.6-1, formerly 30 CFR 270.42, is amended by removing the word "Supervisor" and replacing it with the phrase "authorized officer".

**§ 3262.6-2 [Amended]**

27. Section 3262.6-2, formerly 30 CFR 270.43, is amended by removing the word "Supervisor" and replacing it with the phrase "authorized officer".

**§ 3262.6-3 [Amended]**

28. Section 3262.6-3, formerly 30 CFR 270.44, is amended by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer".

**§ 3262.5-5 [Amended]**

29. Section 3262.5-5, formerly 30 CFR 270.45, is amended by removing in the four places it appears the word "Supervisor" and replacing it with the phrase "authorized officer".

**§ 3262.7 [Amended]**

30. Section 3262.7, formerly 30 CFR 270.46, is amended by removing in the word "Supervisor" and replacing it with the phrase "authorized officer".

**§ 3262.8 [Amended]**

31. Section 3262.8, formerly 30 CFR 270.48, is amended by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer".

32. Section 3262.9, formerly 30 CFR 270.50(b), is revised to read:

**§ 3262.9 Pilot operations or facility testing.**

With respect to the pilot operations or facility testing of those utilization facilities in accordance with the provisions of 30 U.S.C. 1012, the authorized officer may approve the suspension, waiver or reduction of the royalty obligation for a period not to exceed 120 days of net operation upon application therefor. No form of relief from the royalty requirements of a lease

will be approved where the geothermal resources and/or the output of the facility would be used commercially or sold during said period. In addition, no application in this respect will be approved in the absence of a determination by the authorized officer that the payment of royalty during this period would affect adversely the development and recovery of the resources and that the action would be in the interest of conservation, would encourage the greatest ultimate recovery of geothermal resources and is necessary in order to promote development or to ensure that the lease can be operated successfully under the lease terms. Each application for relief hereunder shall be filed in triplicate with the authorized officer and, as a minimum shall:

(a) Identify the facility, its location and the facility operator;

(b) Provide the serial number(s) of the lease(s) from which the geothermal resources are produced and the name(s) of the current lessee(s) and/or operator(s);

(c) Contain the number and location of each well which will be utilized during the pilot or testing operation of the facility and the estimated daily volumes of geothermal resources to be produced of each such well;

(d) Furnish a detailed statement of the estimated costs associated with the pilot or testing operations; and

(e) Supply other appropriate documentation to support the contention that relief from royalty requirements of the lease would be in accordance with the provisions of 30 U.S.C. 1012, as set forth in the preceding paragraph.

**§ 3263.1 [Amended]**

33. Section 3263.1, formerly 30 CFR 270.60, is amended by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer".

**§ 3263.2 [Amended]**

34. Section 3263.2, formerly 30 CFR 270.61, is amended by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer".

**§ 3263.3 [Amended]**

35. Section 3263.3, formerly 30 CFR 270.64, is amended by removing the word "Supervisor" and replacing it with the phrase "authorized officer".

**§ 3264.1 [Amended]**

38. Section 3264.1, formerly 30 CFR 270.70, is amended by:

A. Amending paragraph (a) by removing in the two places it appear the

word "Supervisor" and replacing it with the phrase "authorized officer"; and

B. Amending paragraph (b) by removing in word "Supervisor" and replacing it with the phrase "authorized officer".

**§ 3264.2 [Amended]**

37. Section 3264.2(a), formerly 30 CFR 270.71(a), is amended by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer".

**§ 3264.2-1 [Amended]**

38. Section 3264.2-1, formerly 30 CFR 270.71-1, is amended by:

A. Amending paragraph (a) by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer", by removing the citation "§ 270.34 of this part" and replacing it with the citation "§ 3262.4-1 of this title" and by removing the phrase "part, 43 CFR Group 3200," and replacing it with the word "group";

B. Amending paragraph (b) by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer", by removing from the third sentence the citation "§ 270.34-1 of this part" and replacing it with the citation "§ 3262.4-1 of this title", by removing from the end of the last sentence the phrase "Authorized Officer pursuant to 43 CFR Group 3200," and replacing it with the phrase "responsible officer of the surface managing agency pursuant to the regulations in this group.";

C. Amending paragraph (c) by removing from the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer", by removing from the second sentence the citation "43 CFR Group 3200" and replacing it with the phrase "the regulations in this group.", by removing the citation "§ 270.34-1 of this part," and replacing it with the citation "§ 3262.4-1 of this title," and by removing from the last sentence the phrase "part, 43 CFR Group 3200," and replacing it with the word "group";

D. Paragraph (d) is amended by removing the word "Supervisor" and replacing it with the phrase "authorized officer" and by removing from subparagraph (d)(5) the word "Supervisor" and replacing it with the phrase "authorized officer";

E. Revising paragraph (e) to read:

**§ 3264.2-1 Application for utilization permit**

(e) Except as permitted by the access provisions of the lease, transmission facilities (lines and substations) and

roads or pipelines located on off-lease Federal surface will require that appropriate permits be obtained. In the event that a Federal agency, other than the Bureau of Land Management, has jurisdiction over all or a portion of the affected off-lease Federal surface, the necessary right-of-way permits must be obtained from that agency.

F. Amending paragraph (g) by removing the word "Supervisor" and replacing it with the phrase "authorized officer"; and

G. Amending paragraph (h) by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer".

**§ 3264.2-2 [Amended]**

39. Section 3264.2-2, formerly 30 CFR 270.72, is amended by:

A. Amending paragraph (a) by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer";

B. Amending paragraph (b) by removing in the two places it appears the phrase "Supervisor or his representative" and replacing it with the phrase "authorized officer";

C. Amending paragraph (c) by removing the word "Supervisor" and replacing it with the phrase "authorized officer";

D. Amending paragraph (d) by removing the word "Supervisor" and replacing it with the phrase "authorized officer";

E. Amending paragraph (e) by removing the word "Supervisor" and replacing it with the phrase "authorized officer";

F. Amending paragraph (f) by removing the word "Supervisor" and replacing it with the phrase "authorized officer"; and

G. Amending paragraph (g) by removing the word "Supervisor" and replacing it with the phrase "authorized officer";

**§ 3264.2-3 [Amended]**

40. Section 3264.2-3, formerly 30 CFR 270.73, is amended by removing the word "Supervisor" and replacing it with the phrase "authorized officer";

**§ 3264.2-4 [Amended]**

41. Section 3264.2-4, formerly 30 CFR 270.74, is amended by:

A. Amending the introductory paragraph by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer"; and

B. Amending paragraph (f) by removing the word "Supervisor" and

replacing it with the phrase "authorized officer";

§ 3264.2-5 [Amended]

42. Section 3264.2-5, formerly 30 CFR 270.74-1, is amended by removing from the introductory paragraph in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer";

§ 3264.3 [Amended]

43. Section 3264.3, formerly 30 CFR 270.77, is amended by removing the word "Supervisor" and replacing it with the phrase "authorized officer";

§ 3264.4 [Amended]

44. Section 3264.4, formerly 30 CFR 270.78, is amended by:

A. Amending paragraph (a) by removing the word "Supervisor" and replacing it with the phrase "authorized officer";

B. Amending paragraph (b) by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer"; and by removing from paragraph (b)(6) the word "Supervisor" and replacing it with the phrase "authorized officer";

C. Amending paragraph (c) by removing the word "Supervisor" and replacing it with the phrase "authorized officer"; and

D. Amending paragraph (d) by removing the word "Supervisor" and replacing it with the phrase "authorized officer";

45. Section 3265.1, formerly 30 CFR 270.80, is amended by revising paragraph (a) to read:

§ 3265.1 Noncompliance with regulations or lease terms.

(a) Whenever a lessee or anyone acting under his/her authority fails to comply with the provisions of the regulations or lease terms, the authorized officer shall give the lessee notice to remedy any defaults or violations. Failure by the lessee to perform or commence the necessary remedial action pursuant to the notice may result in a shut down of operations and may also result in cancellation of the lease pursuant to § 3244.3 of this title.

22. Section 3266.1, formerly 30 CFR 270.90, is revised to read:

§ 3266.1 Appeals.

Appeals from final orders or decisions issued under the regulations in this part shall be made in the manner provided in Part 4 of this title.

23. The authority citation for new Part 3260 is added to read as follows:

Authority: Geothermal Steam Act as amended (30 U.S.C. 1001-1025) and Order No. 3087 dated Dec. 3, 1982, as amended on Feb. 7, 1983 [48 FR 8983].

II

1. 30 CFR Part 271 is redesignated as 43 CFR Part 3280 as shown in the following redesignation table:

REDESIGNATION TABLE	
Old 30 CFR Part 271	New 43 CFR Part 3280
	Insert new part title—Part 3280 Geothermal Resources Unit Agreements—Unproven Areas.
	Insert new subpart 3280—Geothermal resources unit agreements—General.
271.1 (First sentences).	3280.0-1 Purpose.
271.1 (Second sentences).	3280.0-2 Policy.
271.2	Insert new section 3280.0-3 Authority.
271.3	3280.0-6.
	3281.2.
271.4	Insert new subpart 3281—Application for unit agreement.
271.5	3281.1.
	3281.4.
	Insert new subpart 3282—Qualification of unit operator.
271.6	3282.1.
271.7	3281.3.
	Insert new subpart 3283—Filing and approval of documents.
271.8(a)	3283.0-1 Approval of associated agreement.
271.8 (b), (c), (d)	3283.2 Escrowed agreement.
271.9(a)	3283.1 Filing of documents and number of counterparts.
271.9(b)	3283.4 Plan of development.
271.9(c)	3283.3 Participating area.
271.9(d)	3283.5 Return of approved documents.
	Insert new subpart 3284—Bonds.
271.10	3284.1.
	Insert new subpart 3285—Appeals.
271.11	3285.1.
	Insert new subpart 3286—Model forms.
271.12	3286.1 Model unit agreement—unproven areas.
271.13	3286.1-1 Model Exhibit "A."
271.14	3286.1-2 Model Exhibit "B."
271.15	3286.2 Model unit bond.
271.16	3286.3 Model disposition of successor operator.
271.17	3286.4 Model change of operator by assignment.

2. Part 3280 is amended by inserting immediately after the part heading a "NOTE" to read:

Note.—Many existing unit agreements specifically refer to the United States Geological Survey, USGS, Minerals Management Service, MMS, Supervisor, Conservation Manager, Deputy Conservation Manager, Minerals Manager and Deputy Minerals Manager in the body of the agreements, as well as reference to Title 30 CFR Part 270 or specific sections thereof. Those references must now be read in the context of the provisions of Secretarial Order 3087 and now mean the Bureau of Land Management or the Minerals Management Service as appropriate.

3. Section 3280.0-1, formerly the first sentence of 30 CFR 271.1, is revised to read:

§ 3280.0-1 Purpose.

The regulations in this part prescribe the procedure to be followed and the requirements to be met by holders of Federal geothermal leases and their representatives who wish to unite with each other, or jointly or separately with others, in collectively adopting and operating under a cooperative or unit plan for the development of any geothermal resources pool, field or like area, or any part thereof.

4. Section 3280.0-2, formerly the second sentence of 30 CFR 271.1, is revised to read:

§ 3280.0-2 Policy.

Cooperative or unit agreements for the development of any geothermal resources pool, field or like area, or any part thereof, may be initiated by lessees, or where such agreements are deemed necessary in the interest of conserving natural resources, they may be required by the Director.

5. A new § 3280.0-3 is added to read:

§ 3280.0-3 Authority.

These regulations are issued under the authority of the Geothermal Steam Act of 1970, as amended (30 U.S.C. 1001-1025) and Order Number 3087, dated December 3, 1982, as amended February 7, 1983 (48 FR 8983), under which the Secretary consolidated and transferred the onshore minerals management functions of the Department, except mineral revenue functions and the leasing of restricted Indian lands, to the Bureau of Land Management.

§ 3280.0-5 [Amended]

6. Section 3280.0-5, formerly 30 CFR 271.2, is amended by:

A. Removing paragraph (d) in its entirety;

B. Renumbering paragraphs (e) through (j) as paragraphs (d), (e), (f), (g), (h) and (i), respectively; and

C. Removing paragraphs (k), (l), (m) and the note at the end thereof in their entirety.

§ 3281.1 [Amended]

7. Section 3281.1, formerly 30 CFR 271.4, is amended by removing in the two places it appears the citation "§ 271.12" and replacing it with the citation "§ 3286.1 of this title" and by removing in the two places it appears the citation "§ 271.3" and replacing it with the citation "§ 3281.2 of this title".

§ 3281.2 [Amended]

8. Section 3281.2, formerly 30 CFR 271.3, is amended by removing the word "Supervisor" and replacing it with the phrase "authorized officer".

**§ 3281.3 (Amended)**

9. Section 3281.3, formerly 30 CFR 271.7, is amended by removing the word "Supervisor" and replacing it with the phrase "authorized officer".

**§ 3282.1 (Amended)**

10. Section 3282.1, formerly 30 CFR 271.6, is amended by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer".

11. Section 3283.1, formerly 30 CFR 271.9(a), is revised to read:

**§ 3283.1 Filing of documents and number of counterparts.**

All proposals and supporting papers, instruments and documents submitted under this part shall be filed with the authorized officer, unless otherwise provided in this part or otherwise instructed by the Director.

12. Section 3283.2, formerly 30 CFR 271.8 (b), (c) and (d), is revised to read:

**§ 3283.2 Executed agreement.**

(a) Where a duly executed agreement is submitted for Departmental approval, a minimum of 8 signed counterparts shall be filed. The same number of counterparts shall be filed for documents supplementing, modifying or amending an agreement, including change of operator, designation of a new operator and notice of surrender, relinquishment or termination.

(b) The address of each signatory party to the agreement shall be inserted below the party's signature. Each signature shall be attested to by at least 1 witness, if not notarized. Corporate or other signatures made in a representative capacity shall be accompanied by evidence of the authorization of the signatories to act unless such evidence is already a matter of record in the Bureau of Land Management. (The parties may execute any number of counterparts of the agreement with the same force and effect as if all parties signed the same document, or may execute a ratification of consent in a separate instrument with like force and effect.)

(c) Any modification of an approved agreement shall require approval of the Secretary or his/her duly authorized representative under procedures similar to those cited in § 3283.2-1 of this title.

13. Section 3283.2-1, formerly 30 CFR 271.8(a), is revised to read:

**§ 3283.2-1 Approval of executed agreement.**

A duly executed unit or cooperative agreement shall be approved by the Secretary or his/her duly authorized representative upon a determination that such agreement is necessary or

advisable in the public interest and is for the purpose of properly conserving the natural resources, taking into account the environmental consequences of the action. Such approval shall be incorporated in a certificate appended to the agreement. No such agreement shall be approved unless at least 1 of the parties is a holder of a Federal lease embracing lands being committed to the agreement and unless the parties signatory to the agreement hold sufficient interests in the area to give effective control of operations therein.

14. Section 3283.3, formerly 30 CFR 271.9(c), is revised to read:

**§ 3283.3 Participating area.**

Each application for approval of a participating area, or revision thereof, shall be accompanied by 3 copies of a substantiating geologic and engineering report, structure contour map(s), cross-section or other pertinent data.

15. Section 3283.4, formerly 30 CFR 271.9(b), is revised to read:

**§ 3283.4 Plan of development.**

Plans of development and operation, plans of further development and operation and proposed participating areas and revisions thereof shall be submitted in quadruplicate.

16. Section 3283.5, formerly 30 CFR 271.9(d), is revised to read:

**§ 3283.5 Return of approved documents.**

All instruments or documents other than plans of development and operation, plans of further development and operation and proposed participating areas and revisions thereof submitted for approval shall be submitted for approval in sufficient number to permit the approving official to return at least 1 approved counterpart.

**§ 3284.1 (Amended)**

17. Section 3284.1, formerly 30 CFR 271.10, is amended by removing the word "Supervisor" and replacing it with the word "authorized officer" and by removing the citation "§ 271.15," and replacing it with the citation "§ 3286.2 of this title."

**§ 3285.1 (Amended)**

18. Section 3285.1, formerly 30 CFR 271.11, is amended by removing the citation "30 CFR Part 290," and replacing it with the citation "Part 4 of this title."

19. Section 3286.1, formerly 30 CFR 271.12, is amended by:

A. Revising the section heading to read:

**§ 3286.1 Model Unit agreement—unproven areas.**

B. Amending Article II, section 2.1, by removing paragraphs (g) and (h) in their entirety and replacing them with new paragraphs (g) and (h) to read:

**Article II—Definitions**

(g) *Director.* The Director of the Bureau of Land Management.

(h) *Authorized Officer.* Any person authorized by law or by lawful delegation of authority in the Bureau of Land Management to perform the duties described.

C. Amending Article III, section 3.4, by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer";

D. Amending Article IV, sections 4.1(b), (c) and (d), by removing the word "Supervisor" and replacing it with the phrase "authorized officer" and by amending sections 4.8 and 4.8 by removing the word "Supervisor" and replacing it with the phrase "authorized officer";

E. Amending Article VII by amending section 7.1 by removing the word "Supervisor" and replacing it with the phrase "authorized officer" and by amending section 7.3 by removing the word "Supervisor" and replacing it with the phrase "authorized officer";

F. Amending Article VIII, section 8.3(b), by removing the word "Supervisor" and replacing it with the phrase "authorized officer";

G. Amending Article IX, section 9.6 by removing the word "Supervisor" and replacing it with the phrase "authorized officer";

H. Amending Article X by amending section 10.1 by removing the word "Supervisor" and replacing it with the phrase "authorized officer" and by amending section 10.4 by removing the word "Supervisor" and replacing it with the phrase "authorized officer";

I. Amending Article XI by amending section 11.1 by removing the word "Supervisor" and replacing it with the phrase "authorized officer", by amending section 11.2 by removing the word "Supervisor" and replacing it with the phrase "authorized officer", by amending section 11.4 by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer", by amending section 11.5 by removing the word "Supervisor" and replacing it with the phrase "authorized officer", by amending section 11.6 by removing the word "Supervisor" and replacing it with the phrase "authorized officer", by amending section 11.7 by removing in the two places it appears the word

"Supervisor" and replacing it with the phrase "authorized officer", by amending section 11.8 by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer";

J. Amending Article XII by amending section 12.1 by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer", by amending section 12.2 by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer", by amending section 12.3 by removing the word "Supervisor" and replacing it with the phrase "authorized officer" and by amending section 12.4 by removing the word "Supervisor" and replacing it with the phrase "authorized officer";

K. Amending Article XIV by amending section 16.1 by removing the word "Supervisor" and replacing it with the phrase "authorized officer";

L. Amending Article XVI by amending section 18.1 by removing the word "Supervisor" and replacing it with the phrase "authorized officer";

M. Amending Article XVIII by amending section 18.2 by removing the word "Supervisor" and replacing it with the phrase "authorized officer";

N. Amending Article XXI by amending section 21.3 by removing the word "Supervisor" and replacing it with the phrase "authorized officer";

O. Amending Article XXV by amending section 25.1 by removing in the two places it appears the word "Supervisor" and replacing it with the phrase "authorized officer" and by amending section 25.5 by removing the word "Supervisor" and replacing it with the phrase "authorized officer"; and

P. Amending Article XXVIII by amending section 28.2 by removing the word "Supervisor" and replacing it with the phrase "authorized officer";

20 Section 3286.1-1, formerly 30 CFR 271.13, is amended by revising the section heading to read:

**§ 3286.1-1 Model Exhibit 'A'.**

21. Section 3286.1-2, formerly 30 CFR 271.14, is amended by:

A. Revising the Section heading to read:

**§ 3286.1-2 Model Exhibit 'B'.**

B. Removing the sentence "3 Patented tracts 1.951.20 acres or 19.04% of unit area." at the end of the table and replacing it with the sentence "4 Patented tracts 1.951.20 acres or 19.04% of unit area."

22. Section 3286.2, formerly 30 CFR 271.15, is amended by revising the section heading to read:

**§ 3285.2 Model unit bond.**

23. Section 3286.3, formerly 30 CFR 271.16, is amended by:

A. Revising the section heading to read:

**§ 3286.3 Model designation of successor operator.**

B. Removing the language under the signature line at the end of the form and replacing it with "Authorized Officer, Bureau of Land Management."

24. Section 3286.4, formerly 30 CFR 271.17, is amended by:

A. Revising the section heading to read:

**§ 3286.4 Model change of operator by assignment.**

B. Removing the language under the signature line at the end of the form and replacing it with "Authorized Officer, Bureau of Land Management."

25. The authority citation for new Part 3280 is added as follows:

Authority: Geothermal Steam Act of 1970, as amended (30 U.S.C. 1001-1025) and order No. 3087, dated Dec. 3, 1962, as amended Feb. 7, 1963 (48 FR 8963).

**Garrey E. Carruthers,**

*Assistant Secretary of the Interior.*

**September 28, 1983.**

[FR Doc. 83-26840 Filed 9-29-83; 8:45 am]

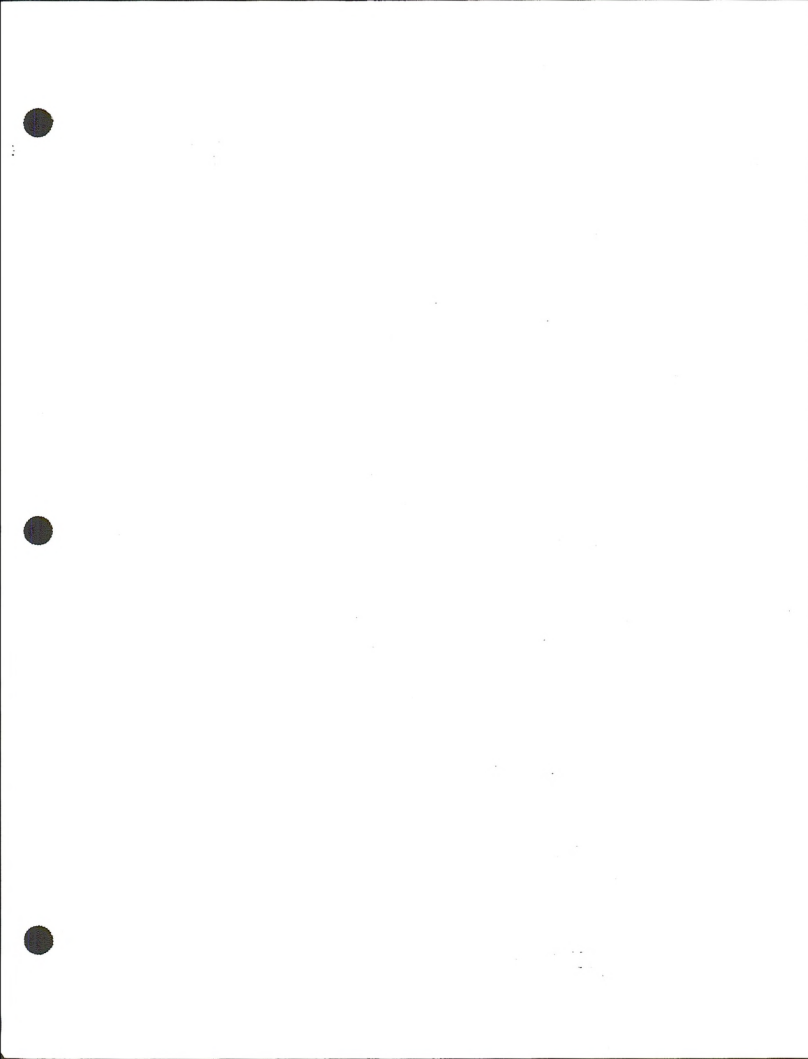




- GRO Order 1. Exploratory Operations
- GRO Order 2. Drilling, Completion and Spacing of Geothermal Wells
- GRO Order 3. Plugging and Abandonment of Wells
- GRO Order 4. General Environmental Protection Requirements



United States Department of Interior  
Geological Survey  
Conservation Division  
Office of the Area Geothermal Supervisor



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## UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY CONSERVATION DIVISION

### GEO THERMAL RESOURCES OPERATIONAL ORDER NO. 1

Effective February 1, 1975

#### EXPLORATORY OPERATIONS

This Order is established pursuant to the authority prescribed in 30 CFR 270.11 and in accordance with 30 CFR 270.78. All exploratory operations other than drilling of exploratory and development wells will be conducted in accordance with the provisions of this Order. All plans for exploratory operations to be conducted shall include provisions for appropriate environmental protection and reclamation of disturbed lands. A cultural resources investigation approved by the Area Geothermal Supervisor (Supervisor) shall be performed prior to any surface disturbance other than Casual Use.

All variances from the requirements specified in this Order shall be subject to approval pursuant to 30 CFR 270.48. Each Notice of Intent to Conduct Geothermal Resources Exploration Operations shall include a notation of any proposed variances from the requirements of this Order. Reference in this Order to approvals, determinations or requirements are to those given or made by the Supervisor or his delegated representative.

The following exploratory operations and reasonable expenditures therefor will qualify as diligent exploration if approved by the Supervisor prior to the initiation of such operations.

1. Casual Use. Casual Use shall include any entrance on the lease lands for geological reconnaissance or surveying purposes. Sampling of springs and water wells on the lease for geochemical analysis shall be construed as casual use. Such non-disturbing surveys and reconnaissance operations will not require a Notice of Intent to Conduct Geothermal Resources Exploration Operations. The lessee shall notify the Supervisor prior to commencing such casual use operations. Casual Use operations proposed or completed shall be included in any subsequent Plan of Operations.

2. Geophysical Exploration. Geophysical exploration shall include but is not limited to, surface electrical resistivity surveys, seismic ground noise surveys, passive micro-earthquake monitoring surveys, magneto-telluric surveys and all other geophysical surveys, including airborne techniques.

Geophysical surveys other than airborne techniques will require a Notice of Intent to Conduct Geothermal Resources Exploration Operations, (Form 3200-9). All such anticipated surveys should be included in the Plan of Operations and must be approved by the Supervisor before the work is begun.

The lessee shall furnish the Supervisor two copies of the records of such surveys within 30 days after the completion of such operations.

**3. Drilling of Shallow Holes.** Drilling of shallow holes for the measurement of temperature gradients or heat flow will be considered as an exploration operation and will require approval of a Notice of Intent to Conduct Geothermal Resources Exploration Operations (Form 3200-9) by the Supervisor. The following stipulations shall apply to the drilling of such shallow holes:

A. Holes for measuring temperature gradients shall be limited to a depth of 152 metres (500 feet), unless otherwise authorized by the Supervisor.

B. Return-line temperatures shall be taken at no less than 9-metre (30 foot) intervals during drilling operations on shallow holes drilled with mud. If return-line mud temperature should reach 52°C. (125°F.), drilling ahead shall cease immediately and the hole will be either

(1) Completed as an observation hole by running steel tubing as deep as possible, filling the annulus with drilling mud from total depth to 3 metres (10 feet) below the surface and with cement from 3 metres (10 feet) to the surface;

(2) Abandoned by filling the hole with drilling mud from total depth to 3 metres (10 feet) below the surface and cement to the surface thereafter, or

(3) Equipped with mud cooling and wellhead control devices to maintain well control and mud returns temperature at or below 52°C. (125°F.).

C. If flowing steam or hot water at 65°C (150°F.) or greater is encountered, further drilling shall stop immediately and the hole will be either

(1) Completed as an observation hole using steel tubing cemented from total depth to surface; or

(2) Abandoned by plugging with cement from total depth to surface.

D. If cold flowing artesian water is encountered, the hole will be completed as in (C) hereinabove, except that plastic tubing may be used.

If the conditions outlined in (B), (C) or (D) are encountered, the Supervisor shall be notified immediately.

No exceptions to the stipulations of (B), (C) or (D) will be allowed without specific prior permission of the Supervisor.

E. The lessee shall submit the following information with the Notice of Intent to Conduct Geothermal Resources Exploration Operations (Form 3200-9):

(1) The approximate location (to the nearest 30 metres (100 feet) from some identifiable marker or object within the smallest legal subdivision) and hole number or designation of each proposed hole and probable order of drilling;

(2) The type and size of drilling rig;

(3) The proposed drilling program including the drilling system (type of bit and circulating medium), approximate depths and casing (conductor) program for each such hole;

(4) The type of drilling pump and proposed method of pump abandonment at each location;

(5) The approximate time that each hole will be used for observation; and

(6) The proposed method of abandonment for each hole. Additionally, the lessee shall notify and receive the approval of the Supervisor prior to any change in the location of an approved hole or for any additional holes which the lessee desires to drill.

F. Locations proposed in natural thermal areas within a 300-metre (1,000-foot) radius of hot springs, fumaroles, or other surface geothermal indicia, or in areas of known artesian water flow, will require a detailed drilling program for each hole, approved by the Supervisor. The Supervisor may require special drilling and completion techniques for such holes (such as cemented surface casing and simple expansion-type blowout preventers) to safely control formations containing geothermal or other resources which may be penetrated.

G. A supply of mud and lost circulation material shall be kept on hand while drilling to control abnormal pressure if rotary equipment is used.

H. Holes shall be completed for observation purposes in a manner which will allow satisfactory subsequent abandonment. As a minimum, the annular space shall be filled with mud (cuttings and dirt if drilled with air or auger) to 3 metres (10 feet) below the surface and with cement from 3 metres (10 feet) to the surface, and the tubing shall be capped when not in use.

I. Holes shall be abandoned in a manner that will prevent subsurface interzonal migration of fluids and surface leakage. As a minimum, the top 3 metres (10 feet) of tubing below the surface shall be filled with cement. Tubing shall be cut off at ground level or as directed by the Supervisor.

4. Reporting Completion of Exploration Operations. The Notice of Completion of Geothermal Resources Exploration Operations (Form 3200-10) shall be submitted in triplicate, and shall include the following information for each hole drilled:

A. Final hole designation and location;

B. A driller's log noting water table and water aquifers encountered (if determined), and salt, coal beds or other mineral deposits, if present;

C. Method of completion, cementing, and casing and/or tubing used;

D. Complete details of the abandonment procedures;

E. Any information on drilling difficulties or unusual circumstances encountered which would be helpful in assuring future safety of operations or protection of the environment in the area concerned; and

F. Temperature data and logs for each hole surveyed.

5. General. Drilling fluids or cuttings shall not be discharged into the surface where such discharge might contaminate lakes and perennial or intermittent streams. Excavated pits or sumps used in drilling shall be backfilled as soon as drilling is completed and restored to conform with the original topography. Unattended sumps shall be completely fenced for the protection of the public, domestic animals and wildlife.

6. Notice of Entry. Applicant shall contact the appropriate U. Geological Survey Geothermal District Office prior to entry on the land to conduct exploration operations.

*Reid T. Stone*  
Reid T. Stone  
Area Geothermal Supervisor

Approved:

*Russell G. Wayland*  
Russell G. Wayland,  
Chief, Conservation Division



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
CONSERVATION DIVISION

GEOHERMAL RESOURCES OPERATIONAL ORDER NO. 2

Effective February 1, 1975

DRILLING, COMPLETION AND SPACING OF GEOHERMAL WELLS

This Order is established pursuant to the authority prescribed in 30 CFR 270.11 and in accordance with 30 CFR 270.14, 270.15, and 270.40. All wells shall be drilled in such a manner as to minimize damage to the environment and to protect life, health, property, usable ground waters and geothermal resources.

All exploratory wells drilled for geothermal resources shall be drilled in accordance with the provisions of this Order. Initial development wells drilled for geothermal resources shall be drilled in accordance with the provisions of this Order, and these provisions shall continue in effect until field rules are issued. After field rules have been established by the Area Geothermal Supervisor (Supervisor), development wells in the individual fields shall be drilled in accordance with such rules.

Where sufficient geologic and engineering information is obtained through exploratory drilling, lessees may make application or the Supervisor may request the lessee to submit an application for the establishment of field rules. The Supervisor may issue field rules at any time he deems appropriate upon failure of the lessee to timely file for such field rules.

All wells drilled under the provisions of this Order shall have been included in an exploratory or development Plan of Operations as required under 30 CFR 270.34. Each Application for Permit to Drill (Form 9-331C) shall include all information required under 30 CFR 270.71, and shall include a notation of any proposed variances from the requirements of this Order. All variances from the requirements specified in this Order shall be subject to approval pursuant to 30 CFR 270.48. References in this Order to approvals, determinations, and requirements for submitting of information or applications for approval are to those granted, made or required by the Supervisor or his delegated representative. The lessee shall comply with the following requirements:

1. Well Casing. All wells shall be cased and cemented in accordance with the requirements of 30 CFR 270.15, and the application for permit to drill shall include the casing design safety factors for collapse, tension and burst. The permanent wellhead completion equipment shall be attached to the production casing or to the intermediate casing if the production casing does not reach to the surface except as otherwise authorized by the Supervisor to meet special well conditions. All casing strings reaching the surface shall be cemented at a sufficient

depth to provide adequate anchorage and support for the casing and any blowout prevention equipment required thereon. For the purpose of this Order, the several casing strings in order of normal installation are (1) conductor, (2) surface, (3) intermediate and (4) production strings. The following casing setting depth requirements are general in nature and subject to variations to permit the casing to be set and cemented in a competent formation. The Supervisor's determination of adequate casing setting depths shall be based upon all geologic and engineering factors including apparent geothermal gradients, depths and pressures of the various formations to be penetrated and all other pertinent information about the area. All depths in this Order refer to true vertical depth (TVD) below ground level, unless otherwise specified.

A. Conductor Casing. This casing shall be set at a minimum depth of 15 metres (50 feet) and a maximum depth of 60 metres (200 feet) before drilling into shallow formations suspected or known to contain geothermal resources, non-condensable gases, or other mineral resources or upon encountering such formations.

B. Surface Casing. This casing shall be set at a depth equivalent to or in excess of ten percent of the proposed total depth of the well provided, however, that such setting depth shall be not less than 60 metres (200 feet) nor more than 400 metres (1,300 feet).

C. Intermediate Casing. This casing shall be set at any time when required by well conditions encountered in drilling below the surface casing such as anomalous pressure zones, uncased fresh water aquifers, cave-ins, washouts, lost circulation zones, rapidly increasing thermal gradients or other drilling hazards. If a liner is used as an intermediate string, the lap shall be tested by a fluid entry or pressure test to determine whether a seal between the liner top and the next larger casing string has been achieved. The liner overlap shall be a minimum of 30 metres (100 feet). The test shall be recorded on the driller's log and may be witnessed by the Supervisor. In the event of lap or casing failure during the test, the lap or casing must be repaired or recemented and successfully retested as required by the Supervisor.

D. Production Casing. This casing may be set at the top of or through the potential producing zone and shall be set before completing the well for production. Production casing shall be run to the surface or lapped into the next larger casing string. The liner overlap, if utilized, shall be at least 30 metres (100 feet) and shall be tested, witnessed and recorded as in the case of intermediate casing hereinabove. In the event of lap or casing failure during the test, the lap or casing must be repaired or recemented and successfully retested as required

by the Supervisor. Production casing shall normally be of consistent nominal outside diameter from the surface or from the top of the lap to the casing shoe. The surface casing shall not be used as production casing, unless otherwise authorized by the Supervisor to meet special well conditions.

2. Cementing of Casing. The conductor and surface casing strings shall be cemented with a quantity of cement sufficient to fill the annular space back to the surface. The intermediate casing string shall likewise be cemented back to the surface or to the top of the lap if a liner is used as an intermediate string. Production casing shall be cemented with a high temperature resistant admix, unless waived by the Supervisor and shall be cemented in a manner necessary to exclude, isolate or segregate overlying formation fluids from the geothermal resources zone and to prevent the movement of fluids into possible fresh water zones. Production casing shall be cemented back to the surface or, if lapped, to the top of the lap. A temperature or cement bond log may be required by the Supervisor after setting and cementing the production casing and after all primary cementing operations if an unsatisfactory cementing job is indicated. Proposed well cementing techniques differing from the requirements of this paragraph will be considered by the Supervisor on an individual well basis.

F. Pressure Testing. Prior to drilling out the casing shoe after cementing, all casing strings set to a depth of 152 metres (500 feet) or greater, except for conductor casing, shall be pressure tested to a minimum pressure of 69 bars (1,000 psi) or 0.045 bars/metre (0.2 psi/ft) whichever is greater. All casing strings set at a depth less than 152 metres (500 feet), except for conductor casing, shall be pressure tested to a minimum pressure of 35 bars (500 psi). Such test shall not exceed the rated working pressure of the casing or the blowout preventer stack assembly, whichever is lesser.

In the event of casing failure during the test, the casing must be repaired or recemented until a satisfactory test is obtained. A pressure decline of 10 percent or less in 30 minutes shall be considered satisfactory.

Casing test results shall be recorded on the driller's log and reported to the Supervisor within 30 days after the completion of such test. Advance notice of all casing and lap tests shall be given in sufficient time to enable the Supervisor to be present to witness such tests. The casing and lap test reports shall give a detailed description of the test, including mud and cement volumes, lapse of time between running and cementing casing and testing, method of testing and test results.

#### G. Directional Surveys.

(1) General. Deviation surveys (inclination from vertical or single shot) shall be taken on all wells during the normal course of drilling at intervals not to exceed 152 metres (500 feet). The Supervisor may require a directional survey giving both inclination and azimuth or a dipmeter to be obtained on all wells. In calculating all surveys, a correction from true north to Lambert-Grid north shall be made after making the magnetic to true north correction. All surveys shall be filed with the Supervisor. Where directional surveys are required, composite surveys shall be filed with the Supervisor showing the interval from the bottom of the conductor casing to total depth.

(2) Vertical Wells. Wells are considered vertical if inclination does not exceed an average of five degrees from the vertical. The Supervisor may require a directional survey giving both inclination and azimuth at intervals not exceeding 30 metres (100 feet) between station prior to, or upon, setting any casing string or liner (except conductor casing) and at total depth on any vertical well drilled in close proximity to lease boundaries or areas with an unstable land surface, high faulted or steeply dipping beds, or in areas of suspected abnormal formation pressures.

(3) Directional Wells. Wells are considered directional if inclination exceeds an average of five degrees from the vertical. Directional surveys giving both inclination and azimuth shall be obtained at intervals not to exceed 30 metres (100 feet) between stations prior to, or upon, setting any casing string or liner (except conductor casing) and at total depth.

2. Blowout Prevention Equipment and Procedures. All necessary precautions shall be taken to keep all wells under control at all times, utilize trained and competent personnel, and utilize properly maintained equipment and materials. Blowout preventers and related well control equipment shall be installed, tested immediately thereafter and maintained ready for use until drilling operations are completed. Certain components, such as packing elements and ram rubbers, shall be of high temperature resistant material as necessary. All kill lines, blowdown lines, manifolds and fittings shall be steel and shall have a temperature derated minimum working pressure rating equivalent to the maximum anticipated wellhead surface pressure. Subject to subparagraphs (A) and (B) hereinbelow blowout prevention equipment shall have manually operated gates and hydraulic actuating systems and accumulators of sufficient capacity to close all of the hydraulically-operated equipment and have a minimum pressure of 69 bars (1,000 psi) remaining on the accumulator. Dual control stations shall be installed with a high

pressure backup system. One control panel shall be located at the driller's station and one control panel shall be located on the ground at least 15 metres (50 feet) away from the wellhead or rotary table. Air or other gaseous fluid drilling systems shall have blowout prevention assemblies. Such assemblies may include, but are not limited to, a rotating head, a double ram blowout preventer or equivalent, a banjo-box or an approved substitute therefor and a blind ram blowout preventer or gate valve, respectively. Exceptions to the requirements of this paragraph will be considered by the Supervisor only for certain geologic and well conditions such as stable surface areas with known low subsurface formation pressures and temperatures.

A proposed blowout prevention program and a blowout contingency plan including proposed containment, public health and safety and clean-up measures shall be submitted with the Application for Permit to Drill (Form 9-331C).

A. Conductor Casing. Before drilling below this string, at least one remotely controlled hydraulically-operated expansion type preventer or an acceptable alternative, approved by the Supervisor, including a drilling spool with side outlets or equivalent, shall be installed. A kill line and blowdown line with appropriate fittings shall be connected to the drilling spool.

B. Surface, Intermediate and Production Casing. Before drilling below any of these strings, the blowout prevention equipment shall include a minimum of:

- (1) One expansion-type preventer and accumulator or a rotating head;
- (2) A manual and remotely controlled hydraulically-operated double ram blowout preventer or equivalent having a temperature derated minimum working pressure rating which exceeds the maximum anticipated surface pressure at the anticipated reservoir fluid temperature;
- (3) A drilling spool with side outlets or equivalent;
- (4) A fillup line;
- (5) A kill line equipped with at least one valve; and
- (6) A blowdown line equipped with at least two valves and securely anchored at all bends and at the end.

C. Testing and Maintenance. Ram-type blowout preventers and auxiliary equipment shall be tested to a minimum of 69 bars (1,000 psi) or to the working pressure of the casing or assembly, whichever is the lesser. Expansion-type blowout preventers shall be tested to 70

percent of the above pressure testing requirements.

The blowout prevention equipment shall be pressure tested;

- (1) When installed;
- (2) Prior to drilling out plugs and/or casing shoes;
- (3) Not less than once each week, alternating the control stations, and
- (4) Following repairs that require disconnecting a pressure seal in the assembly.

During drilling operations blowout prevention equipment shall be actuated to test proper functioning as follows:

- (1) Once each trip for blind and pipe rams but not less than once each day for pipe rams; and
- (2) At least once each week on the drill pipe for expansion-type preventers.

All flange bolts shall be inspected at least weekly and re-tightened as necessary during drilling operations. The auxiliary control systems shall be inspected daily to check the mechanical condition and effectiveness and to ensure personnel acquaintance with the method of operation. Blowout prevention and auxiliary control equipment shall be cleaned, inspected and repaired, if necessary, prior to installation to assure proper functioning. Blowout prevention controls shall be plainly labeled, and all crew members shall be instructed on the function and operation of such equipment. A blowout prevention drill shall be conducted weekly for each drilling crew. All blowout prevention tests and crew drills shall be recorded on the driller's log.

D. Related Well Control Equipment. A full opening drill string safety valve in the open position shall be maintained on the rig floor at all times while drilling operations are being conducted. A kelly cock shall be installed between the kelly and the swivel.

3. Drilling Fluid. The properties, use and testing of drilling fluids and the conduct of related drilling procedures shall be such as are necessary to prevent the blowout of any well. Sufficient drilling fluid materials to ensure well control shall be maintained in the field area readily accessible for use at all times.

A. Drilling Fluid Control. Before pulling drill pipe, the drilling fluid shall be properly conditioned or displaced. The hole shall be kept reasonably full at all times, however, in no event shall the annular mud level be deeper than 30 metres (100 feet) from the rotary table when coming out of the hole with drill pipe. Mud cooling techniques shall be utilized when necessary to maintain mud characteristics for proper well control and hole conditioning.

B. Drilling Fluid Testing. Mud testing and treatment consistent with good operating practice shall be performed daily or more frequently as conditions warrant. Mud testing equipment shall be maintained on the drilling rig at all times.

The following drilling fluid system monitoring or recording devices shall be installed and operated continuously during drilling operations, with mud, occurring below the shoe of the conductor casing. No exceptions to these requirements will be allowed without the specific prior permission of the Supervisor:

(1) High-low level mud pit indicator including a visual and audio-warning device;

(2) Degassers, desilters and desanders;

(3) A mechanical, electrical or manual surface drilling fluid temperature monitoring device. The temperature of the drilling fluid going into and coming out of the hole shall be monitored, read and recorded on the driller's or mud log for a minimum of every 9 metres (30 feet) of hole drilled below the conductor casing; and

(4) A hydrogen sulfide indicator and alarm shall be installed in areas suspected or known to contain hydrogen sulfide gas which may reach levels considered to be dangerous to the health and safety of personnel in the area.

C. Monitoring. From the time drilling operations are initiated and until the well is completed or abandoned, a member of the drilling crew or the toolpusher shall monitor the rig floor at all times for surveillance purposes, unless the well is secured with blowout preventers or cement plugs.

4. Well Logging. All wells shall be logged with an induction electric log or equivalent from total depth to the shoe of the conductor casing. The Supervisor may grant an exception to this requirement when well conditions make it impractical or impossible to meet the above requirements.

A. Electric Logs. The lessee shall furnish to the Supervisor two legible exact copies of all logs run, within 30 days after completion of drilling operations on each well. Two copies of field prints of such logs shall be made immediately available to the Supervisor upon his request. Two copies of chemical analyses of geothermal fluids or other similar services performed shall be submitted to the Supervisor within 30 days after such services are completed.

B. Lithologic Logs. Two legible exact copies of core analysis reports and lithologic (mud) logs shall be submitted to the Supervisor within 30 days after the completion of such reports or logs, when such services are used. However, daily logs shall be made available to the Supervisor immediately upon the completion of such daily logs upon his request.

#### 5. Wellhead Equipment and Testing.

A. Completions. All wellhead connections shall be fluid pressure tested to the API or ASA working pressure rating. Cold water is recommended as the testing fluid. Welding of wellhead connections shall be performed by a certified welder using materials in conformance with ASTM specifications.

B. Wellhead Equipment. All completed wells shall be equipped with a minimum of one casinghead with side outlets, one master valve and one production valve, unless otherwise authorized by the Supervisor. All casingheads, Christmas trees, fittings and connections shall have a temperature derated working pressure equal to or greater than the surface shut-in pressure of the well at reservoir temperature. Packing, sealing mediums and lubricants shall consist of materials or substances that function effectively at, and are resistant to, high temperatures. Wellhead equipment, valves, flanges and fittings shall meet minimum ASA standards or minimum API Standard 6A specifications. Casinghead connections shall be made such that fluid can be pumped between casing strings.

C. Testing. Any well showing sustained casinghead pressure or leaking of geothermal fluids between casing strings shall be tested to determine the origin of the failure, when such failure point is not otherwise determinable, and corrective measures shall be taken.

6. Well Spacing. No producing interval of any well shall be located within 30 metres (100 feet) of the outer boundaries of the leased lands, except where approved by the Supervisor. No surface location of a well shall be located within 15 metres (50 feet) of the boundary of any legal subdivision unless otherwise authorized by the Supervisor. The Supervisor may approve or prescribe such well

spacing as he determines to be necessary for the proper development of the geothermal resources in accordance with the provisions of 30 CFR 270.15.

*Reid T. Stone*  
Reid T. Stone  
Area Geothermal Supervisor

Approved:

*Russell G. Weyland*  
Russell G. Weyland  
Chief, Conservation Division

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
CONSERVATION DIVISION

GEOHERMAL RESOURCES OPERATIONAL ORDER NO. 3

Effective February 1, 1975

PLUGGING AND ABANDONMENT OF WELLS

This Order is established pursuant to the authority prescribed in 30 CFR 270.11 and in accordance with 30 CFR 270.14 and 270.45. The lessee shall comply with the following minimum plugging and abandonment procedures for all geothermal resources wells. Oral approvals shall be in accordance with 30 CFR 270.11. All variances from the requirements specified in this Order shall be subject to approval pursuant to 30 CFR 270.48. Each Sundry Notice (Form 9-331) shall include a notation of any proposed variances from the requirements of this Order. References in this Order to approvals, determinations or requirements are to those given or made by the Area Geothermal Supervisor (Supervisor) or his delegated representative.

The lessee shall promptly plug and abandon any well on the leased land that is not in use or demonstrated to be potentially useful. No well shall be abandoned until its lack of capacity for further profitable production of geothermal resources has been demonstrated to the satisfaction of the Supervisor. No well shall be plugged and abandoned until the manner and method of plugging have been approved or prescribed by the Supervisor.

Cement used to plug any geothermal resources well, except that cement or concrete used for surface plugging, shall be placed in the hole by pumping through drill pipe or tubing. Such cement shall consist of a high temperature resistant admix, unless this requirement is waived by the Supervisor in accordance with the particular circumstances existing in that well or area.

Prior to commencing abandonment operations, the Supervisor shall be notified of all such proposed operations.

Each Sundry Notice (Form 9-331) shall include all information required under 30 CFR 270.45 and 270.72. Any bond or rider thereto covering a lease or an individual well thereon, shall remain in full force and effect until the lease or individual well is properly abandoned and the surface properly restored. Written approval of the abandonment must be obtained from the Supervisor before release of any bonds will be recommended.

1. Permanent Abandonment.

A. Uncased Hole. In uncessed portions of wells, cement plugs shall be placed to protect all subsurface mineral resources including fresh water aquifers. Such plugs shall extend a minimum of 30 metres



(100 feet) below, if possible, and 30 metres (100 feet) above such aforementioned zones. Cement plugs shall be placed in a manner necessary to isolate formations and to protect the fluids in such formations from interzonal migration or contamination.

B. Open Hole. Where there is open hole (uncased and open into the casing string above), a cement plug shall be placed in the deepest casing string by either (1) or (2) below. In the event lost circulation conditions exist or are anticipated, or if the well has been drilled with air or other gaseous substance, the plug shall be placed in accordance with (3) below.

(1) A cement plug shall be placed across the shoe extending a minimum of 30 metres (100 feet) above and 30 metres (100 feet) below; or

(2) A cement retainer with effective back pressure control set approximately 30 metres (100 feet) above the casing shoe with at least 61 metres (200 feet) of cement below the retainer and 30 metres (100 feet) of cement above.

(3) A permanent bridge plug set at the casing shoe and cased with a minimum of 61 metres (200 feet) of cement.

C. Perforations, Junk, Fish and Collapsed Pipe. A cement plug shall be placed across production perforations, extending 30 metres (100 feet) below (where possible) and 30 metres (100 feet) above the perforated interval. When a cement retainer is used to squeeze cement the perforated interval, the retainer shall be set a minimum of 30 metres (100 feet) above the perforations. Where the casing contains perforations at or below fish, junk or collapsed casing, thereby preventing cleanout operations, a cement retainer shall be set at least 30 metres (100 feet) above such point, and the interval below the retainer shall be squeeze cemented.

D. Casing Shoes, Stubs, Laps, and Liners. No casing shall be cut and recovered without first obtaining the written approval of the Supervisor. A cement plug shall be placed across all casing stubs, laps, liner tops and all casing shoes not protected by an inner casing string. Such plug shall extend a minimum of 15 metres (50 feet) below and 15 metres (50 feet) above any such shoe, stub, lap or liner top.

E. Plugging of Annular Space. All open annuli extending to the surface shall be plugged with cement.

F. Surface Plug. The innermost casing string which reaches ground level shall be cemented or concreted to a minimum depth of 15 metres (50 feet) measured from 2 metres (6 feet) below ground level.

G. Testing of Plugs. The hardness and location of cement plugs placed across perforated intervals and at the top of uncased or open hole shall be verified by setting down with tubing or drill pipe a minimum of 6,803 kilograms (15,000 pounds) weight on the plug or the maximum weight of the available tubing or drill pipe string, if less than 6,803 kilograms (15,000 pounds).

H. Mud. The intervals of the hole not filled with cement shall be filled with good quality heavy mud.

2. Surface Restoration. All casing strings shall be cut off at least 2 metres (6 feet) below ground level and capped by welding a steel plate on the casing stub. Cellars, pads, structures and other facilities shall be removed. The surface area shall be restored as specified by the Supervisor in consultation with the appropriate surface management agency.

3. Temporary Abandonment. An uncompleted drilling well that is to be temporarily abandoned shall be mudded and cemented as required hereinabove for permanent abandonment except for the provisions of subparagraphs E, F, and I.

4. Suspended Wells. The drilling equipment shall not be removed on any geothermal resource well where drilling operations have been suspended, either temporarily or indefinitely, without prior approval of the Supervisor and after approved measures have been taken to close the well and to protect all subsurface resources, including fresh water aquifers.

*Reid T. Stone*

Reid T. Stone  
Area Geothermal Supervisor

Approved:

*Russell C. Weyladd*

Russell C. Weyladd,  
Chief, Conservation Division

DRAFT

GEOTHERMAL RESOURCES  
OPERATIONAL ORDERS

Page

Issued under the Geothermal Steam Act of 1970

(DRAFT) GRO Order 5. Plans of Operation, Permits, Reports,  
Records and Forms

This GRO Order discusses plans, procedures, etc. established by practice over the years. It has not been officially adopted by the BLM, but is used as a general guide.

United States Department of Interior  
Geological Survey  
Office of Deputy Conservation Manager,  
Geothermal

August 1980

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UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
CONSERVATION DIVISION

GEOTHERMAL RESOURCES OPERATIONAL ORDER NO. 5

Effective \_\_\_\_\_

PLANS OF OPERATIONS, PERMITS, REPORTS, RECORDS, AND FORMS

AUTHORITY: This order is established pursuant to the authority prescribed in 30 CFR 270.11 and 270.12.

INTRODUCTION: This order contains information about plans, permits, reports, records, and forms required for geothermal operations conducted on Federal leases. Additional information not detailed in this order may be required by the Deputy Conservation Manager in support of required data. The former title "Area Geothermal Supervisor" (Supervisor) was changed in May, 1980, to Deputy Conservation Manager - Geothermal, and will be referred to herein as the "Deputy Conservation Manager" or "DCM". Written approval by the Deputy Conservation Manager must be received before commencing any activities other than casual use. However, emergency actions that involve an immediate need for protection of personnel, the public, or the environment may be taken without prior approval, provided that the DCM is promptly notified.

The requirements of this order apply to operations proposed by lessees

on Federal geothermal leases including lands with private surface ownership and Federal mineral ownership, and Federal lands committed to a Federal unit. Utilization facility construction on leased lands with private surface ownership is not subject to the provisions of this order. State and private lands committed to a Federal unit are subject to the provisions of this order only if the responsible State agency is agreeable to Federal regulatory control.

HOW TO SUBMIT INFORMATION: Six copies of plans and permit applications must be submitted; reports and records resulting from operations must be submitted in duplicate. Any proprietary information should be so designated and included in a manner which allows it to be easily separated from the non-proprietary portion. Information which may be considered proprietary by the DCM includes, but is not necessarily limited to, geological, geophysical, reservoir and financial data, interpretations of such data and trade secrets. All non-proprietary information submitted shall be available for inspection under the Freedom of Information Act. Information which has been previously submitted need not be resubmitted, but must be properly cross-referenced. All maps submitted with a plan or permit application should be on readily reproducible transparencies. Consolidation of information and cooperation with other lessees is encouraged to avoid duplication. Copies of USGS forms to be used to submit various information are appended to this order. Lessees or operators are encouraged to consult with the DCM prior to preparation of plans of operations or applications for permits to conduct operations.

WHERE TO SUBMIT: Unless otherwise directed, all required plans, applications, and information should be submitted to the Deputy Conservation Manager - Geothermal, 345 Middlefield Road, Mail Stop 92, Menlo Park, CA 94025, telephone (415) 323-8111, Ext. 2841.

#### PLANS OF OPERATIONS (POO)

Orderly development of a geothermal resource involves six major phases. These phases shall be covered in the Plan of Exploration, Plan of Baseline Data Collection, Plan of Development, Plan of Injection or Disposal, Plan of Utilization, and Plan for Production. Plans may be submitted separately or combined. A plan will also be required for any subsequent operations involving major surface disturbance in addition to that approved under a previous plan. Plans must be approved by the DCM and surface manager(s) before permits which authorize commencement of activities can be issued. A plan may not be approved without receipt of a satisfactory cultural resource report and approval of an Environmental Assessment. A copy of the approved plan and any special conditions of approval must be available at the worksite.

Exhibit 1 specifies information applicable to all plans of operation except for the Plan of Baseline Data Collection. Exhibit 2 is a flow diagram presenting a representative exploration program from lease issuance through resource utilization, and shows necessary application and regulatory procedures. Exhibit 3 presents the necessary applications and permits required to perform various exploration and development activities. In Exhibit 2 and 3 processing times are representative and are based on the applicant's initial submittal of all required information and where no unusual problems develop.

#### PLAN OF EXPLORATION (POE)

Exploration drilling to determine the existence, extent, quality, and commercial potential of a geothermal resource must be covered in a Plan of Exploration. However, activities which involve the search for evidence of the geothermal resource without major surface disturbances may not require approval of a plan. Activities not requiring a plan may be permitted by a Geothermal Exploration Permit. (See "Geothermal Exploration Permit" section, below).

WHEN TO SUBMIT: A Plan of Exploration must be submitted and approved prior to commencing exploration drilling which involves major surface disturbances and the drilling of holes to test or produce the resource. A plan may also be required for temperature gradient hole drilling in areas where hazardous subsurface geologic conditions are known or suspected or where the resource may be encountered.

REQUIREMENTS: The Plan of Exploration must include all information shown as Exhibit 1. It may cover a multiwell drilling program or just specific operations on localized portions of the lease; however, submittal of a broad plan proposing several drill sites or several alternatives to an activity is recommended. For multiwell or multisite programs, it is important to submit area-wide geological, geophysical, hydrological, and other environmental data.

ASSOCIATED APPROVALS: Approval of the Plan of Exploration does not authorize the lessee to initiate activities. Authorization is issued by the DCM by approval of:



1. USGS Form 9-1957, Geothermal Drilling Permit, or

2. USGS Form 9-1958, Geothermal Sundry Notice

(See "Geothermal Drilling Permit" and "Geothermal Sundry Notice" sections, below.)

APPLICABLE REFERENCES: 30 CFR 270.34 and Section 18 of lease Form 3200-21.

#### PLAN OF BASELINE DATA COLLECTION (PBDC)

Before submitting a Plan of Production, the lessee must collect environmental data for a period of at least one year. The data will be used to establish environmental baselines for the assessment of the effects of later production and utilization. Data shall be collected in accordance with an approved plan of baseline data collection. In areas where more than one lessee intends to produce the geothermal resource, lessees are encouraged to submit a cooperative plan.

WHEN TO SUBMIT: The baseline data collection program should begin as soon as a potentially producible resource has been identified. To ensure acceptability of the data gathered, it is recommended that the Plan of Baseline Data Collection be submitted and approved prior to any new data collection.

REQUIREMENTS: The Geothermal Environmental Advisory Panel (GEAP) has published a report, "Guidelines for Acquiring Environmental Baseline Data on Federal Geothermal Leases" (U.S. Department of the Interior, January, 1977), which can be obtained from the DCM. (These guidelines will be in lieu of Exhibit I requirements). The plan of baseline data collection shall describe how baseline data will be collected and the

frequency of reporting. The format of the plan will follow that suggested in the GEAP guidelines.

A final report covering the results of the entire study is to be submitted at the completion of the data collection period. The final report should contain a discussion of which parameters should be subsequently monitored and which shall be deleted and why. This applies to all parameters covered in the report, whether measured by the operator or his contractor or previously measured and included by reference in the report of baseline data. The DCM may require additional reporting in cases where usual reporting and interpretation are not adequate.

ASSOCIATED APPROVALS: The joint approval letter of the Plan of Baseline Data Collection will constitute a permit to proceed with the plan.

APPLICABLE REFERENCES: 30 CFR 270.34(k) and "Guidelines for Acquiring Environmental Baseline Data on Federal Geothermal Leases" (Geothermal Environmental Advisory Panel, U.S. Department of the Interior, January, 1977).

#### PLAN OF DEVELOPMENT (POD)

After the exploration phase, all additional drilling and construction (excluding utilization facility construction) which is necessary for initiation of commercial production must be covered in a Plan of Development.

WHEN TO SUBMIT: The Plan of Development should be prepared after determining the extent, characteristics, and performance of the reservoir and before full-scale subsurface and surface development of the resource for

commercial utilization. It may be combined with the Plan of Injection or Disposal and/or the Plan of Utilization, to expedite processing.

REQUIREMENTS: The Plan of Development must contain all appropriate information shown as Exhibit 1. It should also include:

1. Topographic Map (preferred scale 1:24,000, but not less than 1:63,360) showing:

Location and spacing of all existing and proposed production and injection wells (distinguished by type) and their connecting pipelines and surface production and injection facilities; and location of the utilization facility.

2. Justification (using geologic and geophysical maps, cross sections, and other pertinent data) for the proposed location and spacing of wells including information about:

- a. Reservoir characteristics: Areal extent, thickness, geologic structure, lithology, temperatures, pressures, water analyses, enthalpy, porosities, permeabilities, etc.
- b. Reservoir performance characteristics: Productive area, productivity, and anticipated future performance.
- c. Hydrologic and geologic conditions.
- d. Methods to be used to prevent drainage of other lessees' geothermal resource and minimize interference with other land uses.

3. Representative Drilling Program describing:

Drilling procedures; type of drilling equipment; zone of completion; casing, cementing, and mud programs; and safety provisions.

4. Downhole Production and Injection Equipment (operational description or drawings, capacities, etc.).
5. Surface Production Equipment Installations (pipelines, separators, metering systems, transmission lines, etc.): Operational descriptions or drawings, capacities, safety provisions, etc.

ASSOCIATED APPROVALS: Approval of the Plan of Development does not authorize the lessee to commence development operations. Authorization is issued by the DCM by approval of:

1. USGS Form 9-1957, Geothermal Drilling Permit, or
2. USGS Form 9-1958, Geothermal Sundry Notice.

(See "Geothermal Drilling Permit" and "Geothermal Sundry Notice" sections, below.)

APPLICABLE REFERENCES: 30 CFR 270.34. GPO Orders 2, 6, and 7

#### PLAN OF INJECTION OR-DISPOSAL (POI)

Liquid well effluent must be disposed of in conformance with regulatory requirements. Injection may be required for subsidence control or reservoir recharge. The injection or disposal of geothermal effluent and associated byproducts must be covered by a Plan of Injection or Disposal.

WHEN TO SUBMIT: The Plan of Injection or Disposal may be submitted at the same time and in combination with the Plan of Development and the Plan of Utilization, to expedite processing.

REQUIREMENTS: The Plan of Injection or Disposal must include appropriate

Items of information shown as Exhibit 1. In addition, a plan of waste disposal by injection must include documents 1, 2, 3, 10, and 11 below, and discussion of remaining items:

1. Topographic Map (preferred scale 1" = 1000'), showing all existing and proposed wells (distinguished by type), pipelines, and surface production, injection, and utilization facilities.
2. Subsurface Maps and Cross Sections showing structure and lithology of producing and injection zones.
3. Logs and Histories of wells penetrating the injection zone, if not previously submitted.
4. Injection Zone Characteristics: Volume capacity, geologic formation and structure, porosity, permeability, static formation pressures and temperatures, chemical analysis of zonal fluids and their anticipated reactivity with injected fluids, information about injectivity tests conducted and previous injection operations into the same or similar formations, etc.
5. Injection Fluid Characteristics: Quantity, source, chemical analysis and reactivity, toxicity, temperature, etc.
6. Hydrology, including:  
Quantity and analyses of ground water and predicted effects of injection on surface and ground water.  
Identify existence (or lack) of fresh drinking water aquifers. If present,

address how these aquifers will be protected in compliance with applicable regulations.

7. Local Tectonic Conditions and predicted seismic effects of injection.
8. Available Subsidence Data and the discussion of implications of the injection on subsidence control.
9. Proposed Drilling Programs describing:  
Type of drilling procedures and equipment; zone of completion; casing, cementing, and mud programs; and safety provisions.
10. Downhole Production and Injection Equipment (operational drawings, capacities, etc.).
11. Injection Facilities, Pipelines and Metering Equipment: Engineering design plans and descriptions detailing system capabilities, capacities and safety control devices which will demonstrate pollution prevention requirements of GRO Order No. 6.
12. Injectivity Surveys and other means to monitor injection activities.

A plan for waste disposal (including solid and liquid byproducts) by means other than injection must include:

1. Disposal Facilities (equipment with flowline drawings).
2. Processing, Treatment, and Disposal Methods.
3. Waste Volume.
4. Hydrology, including:  
Location and quality of surface and ground water and in particular, existing or potential fresh drinking water aquifers, which may be affected and their chemical compatibility with waste liquids; chemical analyses and reactivity of all fluids; and methods for maintaining

separation of waste from natural water systems. If fresh drinking water aquifers underlie the disposal area, it must be clearly shown that the disposal system will be in compliance with all applicable regulations and standards protecting such drinking water sources.

5. Monitoring and Recordkeeping Methods.

ASSOCIATED APPROVALS: Approvals of the Plan of Injection or Disposal does not authorize the lessee to perform disposal operations. Authorization is issued by the DCM by approval of:

1. USGS Form 9-1957, Geothermal Drilling Permit, or
2. USGS Form 9-1958, Geothermal Sundry Notice.

(See "Geothermal Drilling Permit" and "Geothermal Sundry Notice" sections, below.)

APPLICABLE REFERENCES: 30 CFR 270.41 and Section 9 of GRO Order No. 4.

PLAN OF UTILIZATION (POU)

Any utilization facility construction, and utilization and transmission of the resource products must be covered in a Plan of Utilization which the facility operator must prepare.

WHEN TO SUBMIT: A Plan of Utilization must be submitted prior to constructing either electric or direct use geothermal resource utilization facilities on a Federal lease. When surface rights and mineral rights are separated (e. g., Stock Raising Homestead Act lands), the lessee should consult with the DCM, on a case-by-case basis, as to whether a Plan of

Utilization will be required. To expedite preparation and processing, the plan may be submitted either separately or in combination with the Plan of Development and the Plan of Injection or Disposal.

REQUIREMENTS: The Plan of Utilization should present a general overview of the proposed facility and its operation. Detailed engineering design plans and specifications for actual construction should be submitted with the Geothermal Utilization Permit application. Certain requirements of this part may be waived or modified when the DCM determines such requirements are not necessary for the proper consideration of the Plan of Utilization (e. g., individual well site generators, small scale direct use facilities). Operators are urged to contact the DCM for guidance in such situations. The Plan of Utilization should include the appropriate information shown in Exhibit I and the following:

1. Information about proposed structures, equipment, and support facilities, including:
  - a. Topographic map (preferred scale 1:6000 in lieu of Item 2a, Exhibit I, showing:  
Facilities and production and injection wells (distinguished by type), power transmission lines, Federal and private lease boundaries and serial numbers, existing and planned access roads, source of road building materials and other pertinent features.
  - b. Description, purpose and operation procedures for each facility or important components of the facility.
  - c. Schematic flow diagram of the important components of each facility.
  - d. Plan of proposed architectural landscaping.

- e. Time Schedule for installation and start-up of the facility, including designing of the plant, acquiring materials, construction, and prestart-up testing.
  - f. Number of Personnel necessary to operate the facilities.
  - g. Schedule for testing and maintaining safety devices.
2. Facility-Site Suitability Studies conducted and planned, including reports, logs, laboratory reports, and raw data obtained from geological, geotechnical and soil bearing surveys.
  3. Water Supplies: Source, quality, consumption rate, and planned use.
  4. Disposal Methods for waste water, solid wastes, and noncondensable gases, other than those covered in a Plan of Injection.
  5. Narrative Statement (In lieu of Item 3, Exhibit 1) containing:  
Measures to prevent or control fires, pollution of surface and ground water, air and noise, pollution, hazards to public health and safety, and damage to fish, wildlife, natural resources, and areas of cultural, historical, or archeological value.
  6. Program for monitoring operations to assure compliance with noise, air, hazardous wastes, and water quality standards and regulations. The monitoring program shall complement the program presented in the Plan for Production. (See "Plan for Production" section, below.)
  7. Abandonment and Reclamation Procedures.
  8. Any additional data the DCM may require in support of the Plan of Utilization.

ASSOCIATED APPROVALS: Pursuant to 43 CFR 3250 permanent electrical power generation facilities of any capacity (other than a facility for an individual production well) will require issuance of a land use license by the Bureau of Land Management. Research and demonstration projects (non-electric or electric power generation facilities) of not more than 20 megawatt (MW) net capacity will not require a Bureau of Land Management land use license, unless retained for commercial operation beyond an initial five-year period. All of the above will require approval of a Geothermal Utilization Permit. Approval of the Plan of Utilization does not authorize the lessee to initiate construction and operation of utilization facilities. Authorization will be issued by the DCM by approval of:

1. USGS Form 9-1968, Geothermal Utilization Permit, and if necessary
  2. USGS Form 9-1958, Geothermal Sundry Notice.
- (See "Geothermal Utilization Permit" and "Geothermal Sundry Notice" sections, below.)

APPLICABLE REFERENCES: 30 CFR 270.2, 30 CFR 270.34-1, and 43 CFR 3250

#### PLAN FOR PRODUCTION (PFP)

Production procedures, monitoring, and any operations to be conducted after completion of drilling, construction, and installation of all wells and facilities needed to commence commercial production must be covered in a Plan for Production.

WHEN TO SUBMIT: The Plan for Production must be submitted and approved prior to initiating production for commercial utilization (except



for approved test period) of the geothermal resource.

REQUIREMENTS: The Plan for Production must contain appropriate items of information shown in Exhibit I, unless previously submitted, in which case they may be referenced. It must also include:

1. Proposed Policy on rates of production, commingling, use of byproducts, remedial work, infill drilling, maintenance, shutdown and start-up, etc.
2. Data to be collected (pressures, temperatures, etc.) and methods to be used for determining and evaluating past and predicting future reservoir performance. The DCM may require scheduled reports and/or reviews of reservoir performance throughout the life of the project.
3. Details of the methods of calculating Federal royalty.
4. Sales contracts or any other agreements not previously submitted.
5. Monitoring Program for noise, air and water quality, seismic and land subsidence activity, and the ecological system other than (or in conjunction with) that covered under the Plan of Utilization.

ASSOCIATED APPROVALS: Before submission of a Plan for Production, the lessee must collect environmental data for a period of at least one year. A Plan of Baseline Data Collection should be submitted and approved prior to any data collection. The collected data must be submitted for approval in a baseline data report before or with the Plan for Production. (See "Plan of Baseline Data Collection" section, above and "Baseline Data Report" section, below.) In addition to an approved Plan for Production, an appropriate permit and plan of operation may be required before commencing various post-development

activities. (See "Geothermal Sundry Notice and Geothermal Drilling Permit sections, below.)

APPLICABLE REFERENCES: 30 CFR 270.34.

## P E R M I T S

### GEOTHERMAL EXPLORATION PERMIT

A permit is required for any exploration operations on Federal lands which involve the search for evidence of geothermal resources, such as geophysical surveys and drilling and coring of temperature gradient holes. A permit is not required for casual use exploration activities, however.

For exploration activities on unleased lands, or lands leased to other than the applicant, the exploration permit is issued by the appropriate surface management agency (either Bureau of Land Management or Forest Service).

For exploration activities on lands under lease to the applicant, a Geothermal Exploration Permit must be obtained from the DCM. A Geothermal Exploration Permit may only be used to permit activities not connected with an approved plan of operation. In addition to the above activities the permit may be required for the brushing of roads and off-road vehicle use associated with exploration activities, and may also be required for geotechnical site suitability studies.

WHEN TO SUBMIT: A permit application must be filed and approved prior to initiating any exploration operations.

REQUIREMENTS: To obtain a permit, the lessee must submit;

1. USGS Form 9-1956, Geothermal Exploration permit.
2. Brief Explanation of Proposed Operations.
3. Topographic Map (preferred scale 1:24,000, but not less than 1:63,360) showing the lease boundaries and serial numbers and proposed station points, drill sites, access roads, etc..
4. Description of Proposal, including the information required by GPO Order No.1.
5. Certified Statement of the presence or absence of any cultural, historical, or Native American religious site which may be disturbed by proposed surface disturbing activities, e.g. temperature gradient hole drilling. The statement must be made by a person acceptable to the surface manager, and copies must be submitted to the surface manager and DCM.

ASSOCIATED APPROVALS: A plan is not required to permit exploration operations; however, an approved Plan of Exploration may be required for certain activities, such as deep gradient holes where a potentially hazardous geologic environment is suspected, where the resource may be encountered, or where significant surface disturbance may be necessary for site access or preparation. (See "Plan of Exploration" section, above.) Site suitability surveys involving trenching or road construction in preparation for the submittal of a Plan of Operation require approval by the DCM and concurrence by the surface manager. Such site suitability surveys may be obtained via a Geothermal Exploration Permit. An exploration permit expires one year from the date of issue. All operations must be

completed and abandoned within that time, unless a written request for an extension is approved by the DCM.

APPLICABLE REFERENCES: 30 CFR 270.2, 30 CFR 270.78, GPO Order No.1, and Section 18 of Lease Form 3200-21.

#### GEOHERMAL DRILLING PERMIT

A geothermal drilling permit is required for each well drilled to determine the presence of, test, develop, produce, or inject the geothermal resource. An approved copy of Form 9-1957 and the drilling program, with any special stipulations or conditions of approval, must be available at the worksite during operations.

WHEN TO SUBMIT: A permit application must be filed and approved prior to drilling, re-drilling, deepening, or plugging back wells. Necessary access road construction and drill site preparation may be authorized by the Drilling Permit or by separate Sundry Notice. The application may be filed at the same time as any plan which proposes drilling, to expedite processing. However, the Drilling Permit will not be approved until such plan has been approved.

REQUIREMENTS: To obtain approval for drilling, the lessee must submit:

1. USGS Form 9-1957, Geothermal Drilling Permit
2. Detailed Drilling Program, including:
  - a. Chronological description of drilling plans indicating depths, hole sizes, tests, logging runs etc.

18.

18. b. Blowout prevention equipment. Include:

A drawing showing installation, types, rating, landing heads, and auxiliary equipment for each stage of drilling; proposed accumulator and backup systems; and testing procedures (including advance notification of USGS for witnessing).

c. Casing: Size, weight, grade, condition, design criteria (safety factors, including burst, collapse, tension, and thermal stress allowances), couplings, proposed landing depths and perforated intervals, number and size of perforations or slots, and pressure testing procedures (including advance notifications of USGS for witnessing).

d. Cement: Quantities, type, additives, desired fill, excess to be used, and testing or recementing procedures to insure desired fill and cement bond.

e. Directional measurements to be taken. If the well is to be directionally drilled, include plan and profile drawings and coordinates or bearing to projected hole bottom.

f. Circulating media: Type, additives, cooling measures, reserve supplies kept onsite, toxicity and protective measures for any toxic materials, and noise and dust control procedures for air drilling.

g. Completion wellhead: Manufacturer, type, design specifications (pressure and temperature ratings, etc.), and drawing showing wellhead, valve assembly with auxiliary outlets, etc. Use API recommended nomenclature.

h. Formation evaluation: Proposed methods and tools for coring,

and mud and borehole logging.

i. Drilling hazards: A brief summary of previous drilling experience in the immediate area. Description of suspected zones of severe lost circulation, high gas or water pressure, hydrogen sulfide gas, etc., and safety equipment to handle any hazards.

j. Drilling equipment: Type and capacity rating of rig, pumps, and accessory equipment.

k. Production testing: Details about surface piping and facilities, measurement of flow rates and temperatures, fluid sampling, and containment or disposal.

l. Abandonment: Proposed abandonment procedures compliant with GRO Order No. 3.

3. Plat: A plat (scale not less than 1:24,000) shall accompany each application to drill a new well. The plat shall show the surface and expected bottom hole locations and the distances from the nearest section or tract lines or corners, as shown on the official plat of survey or protracted survey, with bearings of those lines (if available). Located section survey markers should be indicated. The method of obtaining the final ground level should be indicated (topographic map, surveyed, etc.). A plat of the preliminary location and elevation will be acceptable, but shall be followed by the final official surveyed location and elevation above sea level after the location is completed.

4. Geological, Geophysical, and Hydrological Conditions. Describe briefly: General geologic environment; anticipated reservoir type, estimated depths and types of formations to be drilled, and temperature profile; and anticipated kind and quality of production.

(Previously submitted data on an area may be referenced rather than resubmitted.)

ASSOCIATED APPROVALS: A plan which proposes deep drilling must be submitted and approved before a drilling permit will be issued. (See "Plan of Exploration", "Plan of Development", and "Plan of Injection or Disposal" sections above.) Drill site and access road construction may be commenced before the permit is issued if the plan has been approved. In such cases, approval for construction can be obtained with a USGS Form 9-1958, Geothermal Sundry Notice. A Sundry Notice may also be required for other activities, such as subsequent production testing and for changes in a drilling program in progress.

(See "Geothermal Sundry Notice" section, below.)

APPLICABLE REFERENCES: 30 CFR 270.71 and GDO Orders No. 2 and 3.

#### GEOHERMAL SUNDRY NOTICE

A Geothermal Sundry Notice may only be used for certain miscellaneous activities where the proposed activity is within the area of operations established by a previously approved Plan of Operation, and which can be conducted without additional surface disturbance.

The following may be authorized by an approved Sundry Notice:

1. Drill Site Preparation Activities (if conducted before the Geothermal Drilling Permit is issued): Surveying; constructing access roads, well pads and sumps; digging cellars; and setting conductor pipe.
2. Changes to Approved Plans or Permits: Proposed total depth, casing

sizes, and cementing depths; powerplant installations; etc.

3. Subsequent Well Operations: Repairing, testing, shooting, or plugging and abandoning wells; stimulating or changing the method used to produce the well; altering casing or liner; changing or reconditioning downhole production or injection equipment; converting a formation or well for fluid injection; production/injection tests (when not covered by the Drilling Permit).
4. Construction or Alteration of surface production facilities and of phases of construction of a utilization facility when complete construction plans were not submitted with the utilization permit application, or subsequent alterations of a utilization facility. (See "Geothermal Utilization Permit" section, below.)
5. Other activities not previously covered by, but connected with, an approved Plan of Operations.

WHEN TO SUBMIT: Prior to initiating certain miscellaneous activities, written request to do work must be approved by the DCM. Application is made by submitting USGS Form 9-1958, Geothermal Sundry Notice.

REQUIREMENTS: The Sundry Notice should include a detailed description of the proposed operations. When proposing subsequent well operations, include current mechanical and production status of the well (casing details and condition, effective depth, etc), reason for proposal, remedial program, proposed starting date and anticipated duration.

ASSOCIATED APPROVALS: Sundry Notices covering the above activities will be approved only if within an existing area of operations and there will be no further significant surface disturbance than that anticipated by

operations approved under a plan. In an emergency, oral approval may be obtained for an activity, but a Sundry Notice must subsequently be filed.

APPLICABLE REFERENCES: 30 CFR 270.17, 30 CFR 270.34, 30 CFR 270.35, 30 CFR 270.45, 30 CFR 270.71-1, 30 CFR 270.72, 43 CFR 3205.3-8, and GPO Order 10. 3.

#### GEOTHERMAL UTILIZATION PERMIT

The Geothermal Utilization Permit (USGS Form 9-1968) requires a two step approval. First approval authorizes construction and prestart-up testing of the facility. Geothermal Sundry Notices (Form 9-1958) may be used to authorize various phases of facility construction when construction plans are not submitted with the initial application, however, approval of these permits must follow the first approval of the Geothermal Utilization Permit. The second approval of the Utilization Permit authorizes the operation of the facility. Such approval can be made after evaluation of the prestart-up testing results submitted by the lessee. Where surface and mineral rights are under separate ownership (e.g., Stock Raising Homestead Act of 1916 lands), the facility operator should consult with the DCM, on a case-by-case basis, as to whether a Utilization Permit under this Order is required.

WHEN TO SUBMIT: The permit application must be submitted for first step approval prior to facility construction and prestart-up testing. Concurrent submission with the Plan of Utilization is recommended for timely approval. After construction and testing, the original or a copy of the signed Utilization Permit must be submitted with the prestart-up test results for

second step approval to operate the facility.

REQUIREMENTS: To obtain a permit, the lessee must submit:

1. USGS Form 9-1968, Geothermal Utilization Permit.
2. Plat: An official surveyor's plat (scale not less than 1:24,000) showing elevation at ground level and location of the facility and all related sites by distances from the nearest section or tract lines or corners.
3. Detailed Engineering Design Plans and Specifications for all construction of principal and related facilities, power transmission lines, and facility sites, including road construction and improvement. Each drawing submitted should contain an original signature of the supervising registered engineer.
4. A list of all state, county and other local agencies and private organizations, including professional consultants, who have conducted or will conduct independent reviews of criteria, analyses and designs for verification of sound design practice and compliance with applicable codes and standards. The permit will not be granted until the extent of independent review is deemed adequate by the DCM. In order to expedite processing of the Utilization Permit application, the DCM may require additional independent design review, funded by the applicant.
5. Operating Plan containing procedures and standards to operate and maintain the facility.
6. Planned Metering to determine facility input and output.
7. Proposed sampling and chemical analyses program to monitor fluid flow

stream through facility, including byproducts.

8. Schedule and Procedures for installation and prestart-up testing of all equipment and commencement of operations for commercial utilization of resources.

ASSOCIATED APPROVALS: A plan of utilization must be submitted and approved before a Geothermal Utilization Permit will be issued. Sundry Notices may be used to approve the construction activities in phases or stages. (See "Plan of Utilization" section, above.)

APPLICABLE REGULATIONS: 30 CFR 270.60, 30 CFR 270.61, 30 CFR 270.71-1, and 30 CFR 270.72.

#### REPORTS

##### COMPLETION OF EXPLORATION OPERATIONS

A completion report must be submitted for exploration operations permitted by a Geothermal Exploration Permit.

WHEN TO SUBMIT: The report should be filed within 30 days after completion of activities. The DCM may, however, require submittal of available data prior to full completion of all scheduled activities.

REQUIREMENTS: Submit data and information required by GRO Order No. 1, properly identified as to lease and Exploration Permit number.

ASSOCIATED APPROVALS: USGS Form 9-1956, Geothermal Exploration Permit. Completed operations must be left in a condition acceptable to the District Geothermal Supervisor.

APPLICABLE REFERENCES: GRO Order No. 1.

##### GEOHERMAL WELL COMPLETION REPORT

A completion report must be submitted for wells drilled under a Geothermal Drilling Permit, including all newly drilled and completed wells and old wells which have been deepened, redrilled, or plugged back.

WHEN TO SUBMIT: The report should be filed within 30 days after release of the drilling rig. If results of production tests, water analyses, etc. are not available within this time period, such data shall be submitted in subsequent reports.

REQUIREMENTS: The lessee must submit in duplicate:

1. USGS Form 9-1960, Geothermal Well Completion Report.
2. Chronological History of all operations conducted on the well, giving complete details of drilling, cementing, formation and production tests, and geologic or reservoir phenomena (downhole problems, lost circulation zones, steam and/or water entries, etc).
3. Final Prints of all downhole logs run (electric, sonic, dipmeter, formation density, including 1" = 100' scale S.P. - resistivity logs, if available, etc.) and analyses of these logs (e.g., Saraband).
4. Results of Surveys Run: Temperature, fluid entry, etc.
5. Directional Survey Data: If directionally drilled, plan and profile drawings of the hole course, including projected hole bottom if not measured.
6. Analyses of produced liquids, gases and solid effluents.



7. Plat: An official surveyor's plat showing the final location and elevation of the well if different from the location submitted with the Geothermal Drilling Permit application.

8. Geologic Data:

Complete geologist's lithologic log or mud log, geologic summary of drilling results, and geologist's reports to the operator.

9. Samples: A Split of all drill cuttings (if requested by the DCM) washed and bagged with intervals clearly labeled.

(Previously submitted data may be referenced by title and date submitted.)

ASSOCIATED APPROVALS: Well operations must be conducted in accordance with an approved USGS Form 9-1957, Geothermal Drilling Permit. (See "Geothermal Drilling Permit" section, above.)

APPLICABLE REFERENCES: 30 CFR 270.72 and 30 CFR 270.73.

#### GEOTHERMAL POLLUTION INCIDENT REPORT

All blowouts, spills, leaks, toxic or noncondensable gaseous emissions, or other incidents which may have a significant impact on the environment must be reported to the District as soon as possible but no later than 18 hours after the incident. If unable to contact the District Geothermal Supervisor, the DCM should be contacted directly.

WHEN TO SUBMIT: The initial report must be confirmed by a written report to the DCM and District Supervisors within 30 days after the incident.

REQUIREMENTS: The report should be submitted on USGS Form 9-1961, Geothermal Pollution Incident Report. With prior approval of the DCM,

standard pollution report forms (government, company, insurance carrier, computerized, etc.) may be used instead of Form 9-1961.

ASSOCIATED APPROVALS: Corrective measures taken in mitigation of the incident must be acceptable to the DCM.

APPLICABLE REFERENCES: 30 CFR 270.30 and Section 9.8. of GPO Order No. 4.

#### GEOTHERMAL ACCIDENT AND INJURY REPORT

All accidents and injuries must be reported to the DCM as soon as possible but within 24 hours of the occurrence.

WHEN TO SUBMIT: A written report must be filed not later than 15 days after the accident.

REQUIREMENTS: The report should be submitted on USGS Form 9-1962, Geothermal Accident and Injury Report. With prior approval of the DCM, standard forms (government, company, insurance carrier, computerized, etc.) may be used in place of Form 9-1962.

ASSOCIATED APPROVALS: Corrective and/or preventative measures to prevent similar accidents must be acceptable to the DCM.

APPLICABLE REGULATIONS: 30 CFR 270.46.

#### MONTHLY REPORT OF GEOTHERMAL OPERATIONS

The lessee must file a complete report covering all lease activities (production, injection, drilling, exploration, etc) for each lease each

month, starting with the month in which operations conducted under an Exploration or Drilling Permit are started and continuing until the lease is terminated or the DCM authorizes omission of the report.

WHEN TO SUBMIT: The report must be submitted on or before the last day of the succeeding month, unless an extension is granted by the DCM.

REQUIREMENTS: The report should be filed on USGS Form 9-1963, Monthly Report of Geothermal Operations. With prior approval of the DCM, computerized or other special forms may be used in lieu of Form 9-1963. The DCM may from time to time require cumulative production and injection data by well, lease, reservoir, formation, or field.

ASSOCIATED APPROVALS: None

APPLICABLE REFERENCES: 30 CFR 270.74, and Section 9.C.(2) of GRO Order No. 4.

#### MONTHLY REPORT OF SALES AND ROYALTIES

Beginning with the month in which production is first sold or utilized, the lessee must file a monthly report of sales and royalties for each productive lease, unless otherwise authorized by the DCM.

WHEN TO SUBMIT: The report must be received by the DCM on or before the last day of the succeeding month together with the royalties due the United States. If the last day of the month occurs on a weekend or holiday the report and payment must be received by the last day of business for that month. In addition, the lessee must submit, within 30 days after its effective date, a copy of any sales contract (or utilization

agreement) for disposal of geothermal resources from the lease.

REQUIREMENTS: Prior to submittal of the first report, the DCM will determine what information is required and the form on which it must be submitted. The report should clearly show all of the critical data (volumes, factors, values, etc) and calculations used in arriving at the royalty value due the United States. Unless otherwise authorized by the DCM, this report is required for intermittent as well as continuing sales.

APPLICABLE REFERENCES: 30 CFR 270.49, 30 CFR 270.50 and 30 CFR 270.75.

#### ANNUAL REPORT OF EXPENDITURES FOR DILIGENT EXPLORATION OPERATIONS

If diligent exploration credit is desired, the lessee must file an annual report of expenditures for diligent exploration operations for that lease.

WHEN TO SUBMIT: The report must be submitted on or before the lease anniversary date.

REQUIREMENTS: The report must include an itemized list of expenditures for exploration activities performed during the lease year. Proprietary data, reports and results of all surveys for which expenditures are claimed should accompany the report if not previously submitted. The report should also indicate the desired manner of allocation of expenditures toward all related leases.

APPLICABLE REFERENCES: 30 CFR 270.77 and 43 CFR 3203.5, NTL-79-01

## ANNUAL REPORT OF COMPLIANCE WITH ENVIRONMENTAL

### PROTECTION REQUIREMENTS

The lessee must submit an annual report on actions taken to comply with regulations and requirements for protection of the environment, if any action conducted on the lease during the preceding 12 months resulted in environmental impact. This report can be combined with the appropriate environmental quarterly report required by Section 12, Lease Form 3200-12.

WHEN TO SUBMIT: The report must be submitted on or before the lease anniversary date. No report will be required on inactive leases unless requested by the DCM. Related leases may be covered by one report.

REQUIREMENTS: The report must include:

1. Cover Page: Report title (including year), operator, lease serial number(s), location (section, township, range, base meridian, county, State, and field or KGRA name), lease date, report submittal date, and chronological activity list.
2. Chronological Description of all activities related to geothermal exploration, development, and production, giving dates and actions taken to protect the surface and subsurface environment. (A statement that no citations were received and operations were suspended is not sufficient.) Concerns that should be discussed for each activity include:  
  
Noise, erosion, and pollution control; water and air quality; flora and fauna; aesthetics, antiquities, and historical sites; subsidence and seismic activity; sanitation and waste disposal; public access;

and rehabilitation activities. (Monitoring of various parameters and remote sensing using infra-red or other aerial color photography may be used to substantiate compliance with various requirements.)

3. If Pollution Incidents Occurred: Reference appropriate Pollution Incident Reports and discuss any changes or new development, and the effectiveness of corrective measures.

APPLICABLE REFERENCES: 30 CFR 270.76, Lease Form 3200-2i.

### BASELINE DATA REPORT

Before submitting a Plan for Production, the lessee must collect environmental data for at least one year so that baselines can be established before starting commercial production.

WHEN TO SUBMIT: Collected data must be submitted in a final report before the approval of the Plan for Production. During data collection, interim baseline data reports shall be submitted as required under the approved Plan for Baseline Data Collection. A final report covering the results of the entire study is to be submitted upon completion of data collection. The DCM may require additional reporting in cases where unusual reporting and interpretation are encountered.

REQUIREMENTS: Data submitted must include air and water quality, noise, seismic and land subsidence activity, species and abundance of vascular plants and vertebrate animals, and other topics as specified in the approved Plan for Baseline Data Collection. Data must be compiled, analyzed, and interpreted in an orderly manner, and the report shall

Include: How the geothermal resources will be used; how the data was collected; clear, concise discussions of the data collected for each environmental parameter; and conclusions. The report must stand alone. If other reports are referenced, pertinent data must be summarized. A single report will suffice for all operators participating in a cooperative effort to collect baseline information.

The final report should contain a discussion of which parameters should be subsequently monitored and which should be deleted and why. This applies to all parameters covered in the report, whether measured by the operator or his contractor or previously measured and included by reference in the report of baseline data.

ASSOCIATED APPROVALS: Not applicable.

APPLICABLE REFERENCES: 30 CFR 270.34(k), "Guidelines for Acquiring Environmental Baseline Data on Federal Geothermal Leases" (U.S. Department of the Interior, January 1977).

#### ENVIRONMENTAL QUARTERLY REPORT

WHEN TO SUBMIT: If required by the DCM, the lessee must submit quarterly reports of environmental monitoring.

REQUIREMENTS: The reports must contain environmental data collected during lease development and subsequent operating activities. It must follow the format of the baseline data report or as otherwise specified by the DCM. (See "Baseline Data Report" section above.)

ASSOCIATED APPROVALS: Not applicable.

APPLICABLE REFERENCES: Section 12 of Lease Form 3200-21, Plan of Baseline Data Collection, Plan for Production.

#### MONTHLY REPORT OF FACILITY OPERATIONS

A monthly summation of facility operations for each individual production well, research and demonstration, or plant facility must be submitted by the facility operator, unless otherwise authorized by the DCM.

WHEN TO SUBMIT: The report for any month must be submitted on or before the last day of the following month. The first report must be made for the month in which initial operations and sales begin.

REQUIREMENTS: The report must be filed on a form and in a manner agreed to by the DCM.

APPLICABLE REGULATIONS: 30 CFR 270.74-1.

#### MISCELLANEOUS COMPLETION REPORTS

Completion reports are required for all miscellaneous well operations permitted by a Sundry Notice except for surface facility construction and where operations are reported in a Geothermal Well Completion Report, USGS Form 9-1960.

WHEN TO SUBMIT: The lessee must submit the report within 30 days after completion of the work.

REQUIREMENTS: The report must describe the activities performed and the results obtained. It must include records of any well logs or surveys,

If not previously submitted.

ASSOCIATED APPROVALS: The report may be submitted in a form convenient to the lessee. A copy of the approved USGS Form 9-1958, Geothermal Sundry Notice, must be attached to the report.

APPLICABLE REGULATIONS: 30 CFR 270.72.

#### RECORDS

During deep drilling activities, all pertinent well records must be made available at the worksite and field headquarters for use or inspection, unless otherwise directed by the DCM.

#### DAILY DRILLING REPORT AND RECORD

WHEN TO SUBMIT: Unless specifically otherwise arranged with the DCM, a daily telephone report must be made to the District Geothermal Supervisor during the drilling of any well approved by a Geothermal Drilling Permit.

REQUIREMENTS: The telephone report should be a chronological accounting of operations conducted and should include:

1. Depth: Total and plugged back.
2. Footage Drilled and hole size.
3. Drilling Fluid Characteristics:

Weight or pressure (air drilling),

Drilling fluid temperature in and out, and

Drilling fluid losses.

4. Hole Deviation Surveys and, if directionally drilled, hole bottom coordinates.

5. Casing Run.

6. Cementing Details.

7. Logs and Surveys Run.

8. Drilling Problems: Tight hole, lost circulation, etc.

9. Tests:

Formation or production test details, and

Blowout preventer and casing tests.

APPLICABLE REGULATIONS: 30 CFR 270.37.

#### WELL LOGS AND SURVEYS

WHEN TO SUBMIT: During operations, field prints or working copies of the following must be submitted to the DCM and District Geothermal Supervisor:

1. All Downhole Logs (electrical, radioactive, formation density, etc): one copy each to the DCM and District Geothermal Supervisor immediately after running.
2. Temperature and Fluid Entry Surveys: One copy each to the DCM and District Geothermal Supervisor immediately after running.
3. Mud Logging Results: One copy each to the DCM and District Geothermal Supervisor on completion of a data page.

REQUIREMENTS: The following records must be kept at the worksite:

1. Data and Plots for directional surveys and mud logging.
2. Field Prints of downhole logs.

3. Temperature and Fluid Entry Surveys.

4. Fluid Sampling Results.

5. Core Recovery and Description.

APPLICABLE REGULATIONS: 30 CFR 270.37.

#### SERVICING RECORDS

REQUIREMENTS: Working copies of the following well service records must be kept at the worksite, and copies must be made available to the DCM when requested: Cementing, stimulation, perforation, acidizing, and formation fracturing reports; casing, drill pipe, and other downhole component measurements; fishing tool reports; etc.

APPLICABLE REGULATIONS: 30 CFR 270.37.

#### COMPANY RECORDS

REQUIREMENTS: Copies of all geologic, geophysical, stratigraphic, structural, engineering, and environmental studies, reports, and records must be made available to the DCM, when requested.

#### SAFETY RECORDS

REQUIREMENTS: Records of safety meetings, safety devices installed at the worksite, and work crew drills on contingency plan procedures must be available at the worksite.

APPENDIX  
(Forms)



## BASIC INFORMATION FOR PLANS OF OPERATION

### 1. Title Page showing:

Lease number(s) or unit agreement name;  
Known Geothermal Resources Area (KGRA) name, if any;  
Location (section, township, range, base and meridian; county, and State); Name, address, and phone number for lessee or operator, contractor, and field representatives;  
Brief description of proposed operations and objectives; and  
Estimated starting and completion dates for each activity.

### 2. Maps:

- a. Topographic map, orthophoto quad or equivalent (preferred scale 1:24,000), and, if necessary, written explanation presenting:
  - Federal lease boundaries and serial numbers;
  - Fee lease boundaries; ownership, and lessees, if known;
  - Names, addresses and phone numbers of private surface owners of, and those adjacent to, lands to be disturbed by proposed operations;
  - Proposed, existing, and abandoned wells;
  - Existing and planned access roads;
  - Water supplies and road building materials;
  - Campsites, airstrips, and other support facilities;
  - Homes and other pertinent surface facilities;
- b. Large-scale map showing layout of the operations site (equipment, facilities, sumps, etc.).

- c. Detailed engineering plan and profile drawings for any site, road, or other construction or modification located on rugged terrain, potentially unstable ground, or environmentally sensitive areas.

### 3. Narrative Statement containing:

Measures to prevent or control: fires; soil erosion; pollution of surface and ground water, air and noise pollution, hazards to public health and safety, and damage to fish, wildlife, natural resources, and areas of cultural, historical, or archeological value;  
Methods for disposing of waste materials (including sanitary facilities);  
Provisions for monitoring air quality, noise, drilling mediums, and produced gases, liquids, and solids; and  
Information about construction and drilling personnel (crew size, housing, and support facilities).

- 4. Certified Statement of the presence of or absence any cultural, historical, or Native American religious site which may be disturbed by operations. The statement must be made by a person acceptable to the surface manager, and a copy must be submitted to the surface manager and the DCV. A certified statement of the presence of any rare, threatened or endangered animal or plant species may also be required.

### 5. Emergency Contingency Plans including:

Accident and Injury contingency plan for all plans; a blowout contingency plan where drilling is proposed; and when required by the DCV, contingency plans for the control of fires, pollution incidents or hazards resulting from adverse weather conditions. Each contingency plan shall contain:

UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY, CONSERVATION DIVISION

DESIGNATION OF GEOTHERMAL OPERATOR

The U.S. Geological Survey requires this form or other Supervisor approved form or letter to be prepared and filed in triplicate, with the Supervisor.

The undersigned is, on the records of the Bureau of Land Management, holder of lease(s)

SERIAL NO.:

State Office:

and hereby designates

NAME:

ADDRESS:

as his operator and local agent, with full authority to act in his behalf in complying with the terms of the lease and regulations applicable thereto and on whom the Supervisor or his representative may serve written or oral instructions in securing compliance with the Operating Regulations with respect to (describe acreage to which this designation is applicable):

APPLICABLE REFERENCES: 30 CFR 270.34 and Section 18 of Lease Form 3200-21.

6. Environmental Information. Submittal of the following information

will facilitate the approval process:

Regional and local geology, hydrology, and meteorology;

Potential geologic hazards (active faults, landslide areas, etc.);

Soil, air, noise, and visual studies;

Fauna and flora (associations, communities, habitats, life patterns, etc.);

Current and prospective land uses, including recreational areas; and  
Local economy.

Sites of cultural, historical, or archeological value; and

Wildlife migration routes, watering holes, and habitats.

This designation of operator does not relieve the lessee of responsibility for compliance with the terms of the lease and the Operating Regulations. This designation of operator does not constitute an assignment of any interest in the lease.

If the designated operator defaults, the lessee will promptly comply with all regulations, lease terms, or orders of the Secretary of the Interior or his representative.

The lessee agrees to promptly notify the Supervisor of any change in the designated operator.

I hereby certify the foregoing is true and correct.

SIGNED \_\_\_\_\_

TITLE \_\_\_\_\_

ADDRESS \_\_\_\_\_

DATE \_\_\_\_\_

This report is required by law (30 U.S.C. 1023); and regulations: 30 CFR 270.31. Failure to report in a prescribed manner can result in shutting down operations, suspension and or revocation of cancellation of lease (30 U.S.C. 1011, 30 CFR 270.80, 43 CFR 3244.3). The United States Criminal Code (18 U.S.C. 1001) makes it a criminal offense to make a willfully false statement or representation to any Department or Agency of the United States as to any matter within its jurisdiction.

Exhibit 3. APPLICATIONS AND REPRESENTATIVE PROCESSING TIMES FOR VARIOUS GEOTHEMAL ACTIVITIES

ACTIVITY	MUST BE ADDRESSED IN					ACTIVITY AUTHORIZED BY	PROCESS TIME	REFERENCE PAGE(S)
Casual Use	POE	PBDC	POD	POI	POU	PPP		
Aerial Surveys							None	16
Geologic Mapping								
Surveying								
Water Sampling								
Exploration Operations								
Areal Geophysical Surveys								
Temperature Gradient Hole Drilling and Coring (max. 3000 feet)						x	30 days maximum	16-17
Exploration Drilling and Testing						x		
Geotechnical Site Study							30 days maximum	16-17
With trenching or road construction						x		
No trenching or road construction						x		
Well Pad and Access Road Construction	x					x		16-17
Exploratory well Drilling	x					x	3-6 months	3-4, 17-21, Exh. 1
Well Testing	x					x		
Additional surface disturbance	x							
No additional surface disturbance						x	3 months maximum	3-4, 21-22
Development						x	15 days maximum	21-22
Geotechnical Site Study								
With trenching or road construction			x			x	30 days maximum	6-8, 16-17
No trenching or road construction			x			x		
Well Pad and Access Road Construction			x	x				16-17
Injection well Drilling			x	x		x		6-11, 17-22, Exh. 1
Production well Drilling			x	x		x	4-6 months	8-11, 17-21, Exh. 1
Pipeline Construction			x			x		6-8, 17-21, Exh. 1
Well Testing (production and injection)			x			x		6-8, 21-22
Additional surface disturbance		x	x			x	3 months maximum	3, 6-11, 21-22
No additional surface disturbance						x	15 days maximum	21-22
Injection facilities construction			x	x		x		8-11, 21-22
Production facilities construction			x			x	2-6 months	6-8, 21-22
Later construction on same site						x		21-22
Alteration						x	15 days maximum	
Production and Utilization						x		
Geotechnical Site Study								
With trenching or road construction				x		x	30 days maximum	11-14, 16-17
No trenching or road construction						x		
Site Construction								16-17
Facility Construction			x			x		11-14, 21-24
Power Transmission Line Construction			x			x	3-18 months	11-14, 21-24
Facility Operation			x			x		11-14, 23-24
Production								
Injection or Disposal (incl. byproducts)			x			x	45 days	14-15
Environmental Data Collection							4-6 months	9-11
Baseline Data Collection (pre-development operations - one year minimum)	x							9-6
Environmental Monitoring (post development operations)				x	x		45 days maximum	11-5
Miscellaneous Activities								
Abandonment								
Utilization facility								
well			x			x	15-30 days	11-14, 21-22
Changes to Approved Plans or Permits						x		
Subsequent well Operations						x	7 days	17-22
Acidize								
Casing changes						x	7 days	21-22
Convert to injection well						x		
Deepen								
Directionally drill						x	7-15 days	17-21
Fracture Test						x	1-15 days	
Perforate						x		
Plug back						x	7 days	21-22
Redrill						x		17-21
Repair						x	7-15 days	17-21
						x		21-22

KEY - POE=Plan of Exploration, PBDC=Plan of Baseline Data Collection, POD=Plan of Development, POU=Plan of Utilization, PPP=Plan for Production, GEP=Geothermal Exploration Permit, GDP=Geothermal Drilling Permit, GUP=Geothermal Utilization Permit, SN=Geothermal Sundry Notice.

Note: where more than one Plan or Permit is checked off, the activity may be addressed in either Plan and authorized by either Permit.

Many of the itemized activities are processed together under one Plan rather than individually. Processing times shown are those for the entire Plan, and are based on submittal of a complete application. Processing of the Plans of Development, Injection or Disposal, and Utilization may be done concurrently, and submittal of these Plans together is encouraged.

UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY, CONSERVATION DIVISIONForm Approved  
Budget Bureau No. \_\_\_\_\_

## GEOTHERMAL EXPLORATION PERMIT

The U. S. Geological Survey requires this form or other Supervisor approved form to be prepared and filed in triplicate with requisite attachments with the Supervisor. The District Geothermal Supervisor must approve this permit prior to any lease operations.

1. NAME OF LESSEE/OPERATOR	4. LEASE SERIAL NO.
2. ADDRESS OF LESSEE/OPERATOR	5. SURFACE MANAGER: SLH ( ) FS ( ) Other ( )
3. CONTRACTOR(S) ADDRESS	6. UNIT AGREEMENT NAME
12. TYPE OF OPERATIONS TO BE CONDUCTED (give brief description)	7. PERMIT NO.
13. Exploration operations will be conducted during the period (date) from: _____ to: _____	8. FIELD OR AREA
	9. SEC. T., R., S. & M.
	10. COUNTY
	11. STATE
14. BOND: Surety bond for \$ _____ ( ) Nationwide ( ) Statewide ( ) Lease ( ) Bond to be furnished ( ) Rider to Nationwide bond ( ) Rider to Statewide bond ( ) Bond No. _____	
15. The undersigned agrees that all exploration operations under this permit shall be conducted in accordance with regulations, GND Orders and Special Permit Stipulations:	
1) The lessee/operator shall have copies of this Permit available on location, at all times, while operations are being conducted.	
2) Unless waived, the lessee/operator shall submit in writing to the appropriate District Geothermal Supervisor the status of activities completed or in progress at the end of each month during the term of this Permit.	
3) If requested by the Supervisor the lessee/operator shall submit two copies of all available records of any operations, surveys, tests, or projects immediately after completion of such activities.	
4) Within 10 days after completion of each survey, test, analysis or activity of the permitted operations the undersigned agrees to furnish the Supervisor with two copies of the records of the operation(s).	
5) Special Conditions of Approval:	

The undersigned agrees: (1) to the special stipulations which may be added by the Supervisor as a condition of approval of this Geothermal Exploration Permit; and (2) that the proposed operations will not be commenced until this Permit has been approved by the Supervisor. Appeals from decisions under this Permit may be made in accordance with 30 CFR 270.90.

16

SIGNED \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

(This space for Federal use)

I hereby approve this permit to conduct geothermal resource exploration operations. This permit is effective for one year after the approval date.

SIGNED \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

This permit is required by law (30 U.S.C. 1023); regulations: 30 CFR 270.78; Federal Geothermal Lease Terms and Stipulations and other regulatory requirements. The United States Criminal Code (18 U.S.C. 1001) makes it a criminal offense to make a willfully false statement or representation to any Department or Agency of the United States as to any matter within its jurisdiction.

INSTRUCTIONS

**GENERAL:** This form shall be submitted for any application to perform exploration type operations to search for evidence of geothermal resources on Federally leased land or lands covered by a unit or cooperative agreement.

**ITEM 12:** For drilling operations, describe on a separate sheet the proposed operations in accordance with Geothermal Resource Operational Order. Include coordinate locations for all proposed holes from the nearest section corner. Attach a map or maps of sufficient scale to clearly show all pertinent lease boundaries outlined and all proposed locations plotted and labelled.

**COMPLETED OPERATIONS:** Thirty days after completion of all operations approved under this permit, a completion report in duplicate, shall be submitted to the Supervisor. The completion report shall include a copy of the approved Geothermal Exploration Permit with an attached report detailing all important exploration, completion and abandonment procedures. Copies of all records of the operations shall accompany the report if not previously submitted.





# INSTRUCTIONS

GENERAL: This form shall be submitted for any application to drill for, test, extract, produce, dispose and/or utilize the actual geothermal resource on Federally leased lands or lands covered by a unit or cooperative agreement.

ITEM 1C: Show the current status for existing wells: I=injecting, P=flowing, P=pumping, HE=heat exchange, SI=shut-in, WS=water supply, OB=observe; O=other (specify).

ITEM 7: Number wells using the Modified Kettleman Well Numbering System (see below).

ITEM 15: Show the surface location coordinates from the nearest section corner or tract lines and if the well is to be directionally drilled, the proposed production zone coordinates (top and bottom) from the surface location.

ITEM 19: Indicate reference datum from which measurement was made (see item 20).

ITEM 20: If the reference datum shown is not the graded mat, also show the measurement from the mat surface (e.g. mat-to-derrick floor (DF) measurement, mat-to-rotary table (RT) measurement, mat-to-hully bushing (HB) measurement, etc.).

ITEM 21: For subsequent well work the latest well conditions along with all proposed additions and changes must be shown. To show current well conditions, either fill out this item or attach the latest completion report on the subject well.

ITEM 22: Summarize other pertinent existing data such as producing and injecting zones, type, size, and density of perforations and perforated intervals, etc., in addition to the proposed work. Indicate reasons for changes undertaken.

## PROCEDURE FOR NUMBERING GEOTHERMAL WELLS USING THE MODIFIED KETTELMAN WELL NUMBERING SYSTEM

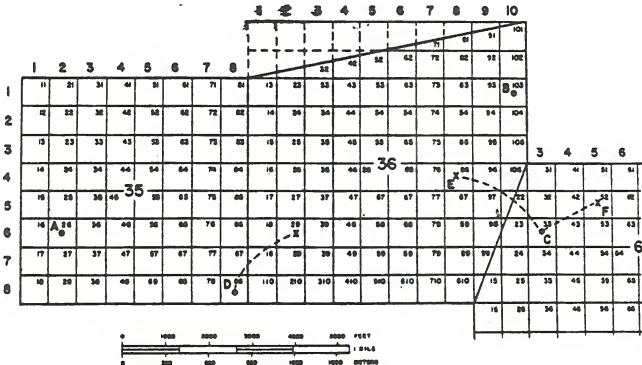
1. Subdivide the sections where the wells are to be located into 10-acre (660 feet x 660 feet) subdivisions. Number each horizontal and vertical subdivision starting in the northwest corner of each section with 1, 1 and increasing to the east and south. A regular 640-acre section contains 64 subdivisions numbered from 11 to 88 (vertical digit first, followed by horizontal digit).

2. Number the first vertical well with the number of the 10-acre subdivision in which it is located, followed by the section number. (See Examples "A", "B", and "C", below.) If the first well is directionally drilled, number it with the subdivision number of its surface location, followed by the subdivision number in which the bottom of the completion interval lies and that section number (if different from the surface section number), and followed by the surface section number. (See Example "D".)

3. Subsequent wells drilled from the same 10-acre surface location are numbered in the manner described above with an A, B, C, etc., added following the surface subdivision number. (See Examples "E" and "F".)

4. For sections with irregular boundaries, align a 10-acre grid pattern North-South, running through the westernmost section point or line, and East-West, running through the northernmost section point or line. Number wells according to the 10-acre grid, subdividing as far as possible to the east and south.

Example A 26-35      Example D Directional 88(28-36)-35  
Example B 103-36      Example E Directional 33A(86-36)-6  
Example C 33-6      Example F Directional 33B(52)-6



UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY, CONSERVATION DIVISIONForm Approved  
Budget Bureau No. \_\_\_\_\_

## GEOCHEMICAL SURVEY NOTICE

U.S. Geological Survey requests this form or other Supervisor approved form to be prepared and filed in duplicate with requisite attachments with the Supervisor. The Supervisor must approve this permit prior to any lease operations.

1a. WELL TYPE: PRODUCTION ( ) INJECTION ( ) HEAT EXCHANGE ( ) OBSERVATION ( ) OTHER ( )		4. LEASE SERIAL NO.	
1b. WELL STATUS:		5. SURFACE MANAGER: SLN ( ) FS ( ) OTHER ( )	
2. NAME OF LESSEE/OPERATOR		6. UNIT AGREEMENT NAME	
3. ADDRESS OF LESSEE/OPERATOR		7. WELL NO.	8. PERMIT NO.
13. LOCATION OF WELL OR FACILITY		9. FIELD OR AREA	
		10. SEC. T.. S., R. & M.	
		11. COUNTY	
		12. STATE	
14. TYPE OF WORK			
CHANGE PLANS ( )	CONVERT TO INJECTION ( )	FULL OR ALTER CASING ( )	
SITE AND ROAD CONSTRUCTION ( )	FRACTURE TEST ( )	MULTIPLE COMPLETS ( )	
CONSTRUCT NEW PRODUCTION FACILITIES ( )	SHOOT OR ACIDISE ( )	ABANDON ( )	
ALTER EXISTING PRODUCTION FACILITIES ( )	REPAIR WELL ( )	OTHER ( )	
15. DESCRIBE PROPOSED OPERATIONS (Use this space for well activities only. See instructions for current well conditions on reverse)			

16. DESCRIBE PROPOSED OPERATIONS (Use this space for all activities other than well work)

(Use reverse side if needed)

17. I hereby certify that the foregoing is true and correct

SIGNED \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

(This space for Federal use)

FOR BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
 TERMS OF APPROVAL, IF ANY:

This permit is required by law (30 U.S.C. 1023); regulations: 30 CFR 270.34, 30 CFR 270.35, 30 CFR 270.45, 30 CFR 270.71-1, 30 CFR 270.72; Federal Geothermal Lease Terms and Stipulations and other regulatory requirements. The United States Criminal Code (18 U.S.C. 1001) makes it a criminal offense to make a willfully false statement or representation to any Department or Agency of the United States as to any matter within its jurisdiction.

#### INSTRUCTIONS

**GENERAL:** This form shall be used for applications for well work, road, site and facilities construction and other miscellaneous activities performed on Federally leased lands or lands under a unit or cooperative agreement, and are related to operations performed under an approved Plan of Operation.

**ITEM 15:** Show the current status for existing wells: I=injecting, P=flowing, P=pumping, HE=heat exchange, SI=shut-in, WS=water supply, OB=observation, O=other (explain).

**ITEM 15:** The latest well conditions (hole size, casing, cement, perforations, producing and injecting zones, etc.) along with all proposed additions and changes must be shown. When completing this section list existing well program first, followed by the proposed program, and separate by a sufficient space to clearly distinguish the two programs. Current well conditions may be either listed in this section or may be shown by attaching a copy of the latest completion report on the subject well.

**ITEM 16:** Attach all pertinent engineering plans and specifications.

**COMPLETED OPERATIONS:** Thirty days after completion of all operations other than construction activities, approved under this permit, a completion report must be submitted in duplicate, to the Supervisor. The completion report shall include a copy of the approved Geothermal Sundry Notice with an attached report detailing the important activities performed, and the completion and abandonment procedures undertaken. Copies of all records of the operations shall accompany the report if not previously submitted.



### THE TRUSTY ONE

**GENERAL.** This form is designed for submitting a complete and accurate geothermal well completion report, and should be accompanied by a detailed chronological history of well operations and final copies of the results of any logs, surveys or tests performed on the well, which have not previously been submitted. The report shall be submitted within 30 days after the date of completion of continuous well activities, as determined by the District Geothermal Supervisor. The report shall be submitted to the District Geothermal Supervisor within 30 days after the date the drilling rig is released. The Supervisor may postpone the required report submission date if adequate justification is presented by the lessee.

NOTE 18: Show the surface location coordinates from the nearest section corner or tract line. Show production zone and total depth coordinates from surface location if the well is directionally drilled.

ITEM 34: If the well is immediately placed into operation without testing, this section should reflect the first month's production data.

NOTE 15 & 16: Indicate the depth(s) of subsurface pressure and temperature measurement, and include the reference datum.

13. TEST DATE		PRODUCTION METHOD: FLOWING ( ) OTHER ( )		WELL TEST FLOWING ( ) - Include size, type, intake depth, etc.			
14. HOURS TESTED		PRODUCTION PRODUCTION DURING TEST			ENTHALPY (Btu/lb)		
		TOTAL LIQUIDS (lb)	STEAM (lb)	WATER (lb)			
15. DEPTH		STATIC TEST DATA		WATER ANALYSIS			
		SURFACE PRESSURE (psig)	SUBSURFACE PRESSURE (psig)	SUBSURFACE TEMPERATURE (°F)	Total Dissolved Solids		
						ph	
16. SURFACE PRESSURE		FLOWING TEST DATA		AVE. TOTAL MASS FLOW RATE PER HOUR			
WELLED:		SUBSURFACE PRESSURE at _____ foot	SURFACE TEMPERATURE	SUBSURFACE TEMPERATURE at top of perfor.	TOTAL (lb/hr)	STEAM (lb/hr)	WATER (lb/hr)
SEPARATOR:							
17. SUMMARY OF PERFORATION ZONES: Show all important porous zones and contents of each; cored intervals with recoveries, drill stem or formation tests with depth of interval tested, time open, cushion used, and flowing and shut-in pressures, temperatures and recoveries.				18. GEOLOGIC MARKERS (TOP)			
FORMATION	TOP	BOTTOM	DESCRIPTION OF DETAILS	NAME	MEASURED DEPTH	TRUE VERTICAL DEPTH	

UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY, CONSERVATION DIVISIONForm Approved  
Budget Bureau No. \_\_\_\_\_

## GEOTHERMAL POLLUTION INCIDENT REPORT

The U.S. Geological Survey requires this form or other Supervisor approved form to be prepared and filed with requisite attachments with the District and Area Geothermal Supervisors within 30 days after the time incident.

DATE OF REPORT _____		4. LEASE SERIAL NO. _____	
1. NAME OF LESSEE/OPERATOR _____		5. SURFACE MANAGER: BLM ( ) FS ( ) Other ( ) _____	
3. ADDRESS OF LESSEE/OPERATOR _____		6. OMIT AGREEMENT NAME _____	
13. INCIDENT DATE AND TIME _____		7. WELL NO. _____	8. PERMIT NO. _____
14. DURATION (Days/Hours) _____		9. FIELD OR AREA _____	
15. WEATHER AND WIND CONDITIONS _____		10. SEC. T., R., S. & N. _____	
16. TYPE OF POLLUTION _____		11. COUNTY _____	
17. EXTENT OF POLLUTION (attach map of involved area) _____		12. STATE _____	
18. DESCRIPTION OF INCIDENT (Include the cause such as human error, mechanical or equipment failure, or natural event; the immediate and long range effects; and other pertinent information.) _____			
19. WATER BODY AFFECTED (Lake, Stream, Groundwater) WITH FLOW RATES (If applicable) (Attach analyses of uncollected and polluted water if possible.) _____			
20. CORRECTIVE ACTION TAKEN (Describe fully; give date, the method used to correct the action, and the name and title of the person performing or supervising the action) _____			
21. PREVENTIVE ACTION TAKEN AND PROPOSAL TO PREVENT RECCURENCE (Fully detail including implementation date. Use additional pages, if needed.) _____			
22. REMARKS AND ADDITIONAL PERTINENT INFORMATION (Use additional pages if needed). _____			
23. _____			

SIGNED \_\_\_\_\_

TITLE \_\_\_\_\_

DATE \_\_\_\_\_

(This space for Federal use)

Oral report received by \_\_\_\_\_ Field Inspection by \_\_\_\_\_

Date \_\_\_\_\_ Time \_\_\_\_\_

Potential environmental damage and pertinent remarks:



# INSTRUCTIONS

1. GENERAL: This form or other acceptable form shall be submitted in all cases where significant accident and/or injury related to lease operations occurs.
2. THE SITE: If the accident occurred at a drill site, locate the area of occurrence in relation to the nearest structure or equipment. Accidents occurring in lease areas may be located by the appropriate 1/4, 1/4 section, other appropriate description, or by maps of sufficient scale to clearly show the accident area. Use additional space under remarks if needed.
3. THE SITE: Submit drawings or maps if appropriate.

## THE INJURY

21. NAME OF INJURED EMPLOYEE(S)	27. ADDRESS OF INJURED EMPLOYEE(S)	28. COMPANY REPRESENTATIVE
29. OCCUPATION WHEN INJURED (Job Title)	30. DATE INJURED STOPPED WORKING (mo/day/yr)	31. WAS HE/SHE DOING HIS/HER REGULAR WORK?
32. HOW LONG ON THIS TYPE OF WORK?	33. HAD HE/SHE BEEN INSTRUCTED REGARDING HAZARDS OF THE JOB AND THE PROPER WAY TO DO THIS WORK?	34. WERE YOU A WITNESS TO THE ACCIDENT?
35. TYPE OF INJURIES	37. ADDRESS OF DOCTOR AND/OR MEDICAL FACILITY	
36. NAME OF DOCTOR AND/OR MEDICAL FACILITY	39. WAS IT BEING PROPERLY USED AT THE TIME OF THE ACCIDENT?	
38. WAS PROPER SAFETY PROTECTIVE EQUIPMENT PROVIDED?		
39. WHAT TRAINING OR SPECIAL INSTRUCTIONS, REGARDING PREVENTION OF THIS OR SIMILAR ACCIDENTS, HAVE BEEN GIVEN TO THE EMPLOYEES? GIVE DATES OF ANY SAFETY MEETINGS HELD DURING PAST SIX MONTHS ON PREVENTION OF SIMILAR ACCIDENTS.		

41. DATE (mo/day/yr) SIGNATURE OF LESSEE'S FIELD SUPERVISOR

SIGNATURE OF EMPLOYEE'S SUPERVISOR

(This space for Federal use)

Oral report received by:

Field inspection by: Date and Time:

Date

Remarks:

UNITED STATES DEPARTMENT OF THE INTERIOR  
 GEOLOGICAL SURVEY, CONSERVATION DIVISION  
GEOHERMAL ACCIDENT AND INJURY REPORT

U.S. Geological Survey requires this form or other Supervisor approved form to be prepared and filed with requisite attachments with the District Geothermal Supervisor and the Supervisor within 15 days after the accident or injury. If the accident is fatal or involves serious injury, report immediately to the District Geothermal Supervisor and Area Geothermal Supervisor by telephone.

1. NAME OF LESSEE/OPERATOR

2. ADDRESS OF LESSEE/OPERATOR

THE ACCIDENT

12. TIME AND DATE OF ACCIDENT

13. LOCATION OF ACCIDENT

14. OPERATION OR WORK IN PROGRESS AT TIME OF ACCIDENT

15. DESCRIPTION OF ACCIDENT

16. NATURE AND APPARENT UNSAFE CONDITION OR ACTION WHICH CAUSED ACCIDENT

17. HAD THIS CONDITION OR ACTION BEEN REPORTED AS A HAZARD BEFORE THE ACCIDENT?

18. WHAT, IF ANY, REMEDIAL ACTION HAS BEEN RECOMMENDED?

19. HAD IT BEEN OR WAS IT BEING IMPLEMENTED AT TIME OF ACCIDENT?

20. IF NOT, EXPLAIN

21. HOW COULD THE ACCIDENT HAVE BEEN PREVENTED?

22. WHAT ACTION HAS BEEN RECOMMENDED AND/OR TAKEN TO PREVENT A SIMILAR ACCIDENT?

23. RECOMMENDATIONS FOR ADDITIONAL PREVENTIVE ACTION

EFFECTS OF THE ACCIDENT

24. WERE THERE ANY INJURIES? IF SO, FILL OUT INJURY REPORT ON REVERSE. DID A POLLUTION INCIDENT RESULT?

IF SO, FILL OUT GEOHERMAL POLLUTION REPORT, FORM USGS 9-1961. DID ACCIDENT CAUSE A SHUT-DOWN OF OPERATIONS?

IF SO, FOR HOW LONG? WAS OPERATION BEEN RESUMED? IF NOT, WHEN WILL IT BE?

25. NAME, ADDRESS AND STATEMENT OF WITNESSES TO ACCIDENT INCLUDING INVOLVEMENT (IF APPLICABLE) IN THE ACCIDENT. (THESE SHOULD BE ATTACHED AS ADDITIONAL PAGES TO THIS REPORT AND BE SIGNED BY THE PERSON MAKING THE STATEMENT.)

ALL ACCIDENTS INVOLVING FAILURE OF EQUIPMENT, UNSAFE CONDITIONS OR HAZARDS WHICH HAVE RESULTED IN PERSONNEL INJURY OR SHUTTING-DOWN OF OPERATIONS MUST BE REPORTED TO THE DISTRICT SUPERVISOR AND THE SUPERVISOR IMMEDIATELY, BUT NO LATER THAN 24 HOURS AFTER THE ACCIDENT OR INJURY.

This report is required by law (30 U.S.C. 1023); regulations: 30 CFR 270.46; Federal Geothermal Lease Terms and Stipulations and other regulatory provisions. Failure to report in a timely prescribed manner can result in shutting down operations, suspension and/or recommendation of cancellation of lease (30 U.S.C. 1011, 30 CFR 270.80, 43 CFR 1244.3). The United States Criminal Code (18 U.S.C. 1001) makes it a criminal offense to make a willfully false statement or representation to any Department or Agency of the United States as to any matter within its jurisdiction.

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D. LEASE SERIAL NO.

4. SURFACE MANAGER: SLN ( ) FS ( )  
Other ( )

5. UNIT AGREEMENT NAME

6. WELL NO. 7. PERMIT NO.

8. FIELD OR AREA

9. SEC. T., R., S. &amp; N.

10. COUNTY

11. STATE

This report is required by law (30 U.S.C. 1023); regulations: 30 CFR 270.74; Federal Geothermal Lease Terms and Stipulations and other regulatory requirements. Failure to report in a prescribed manner can result in shutting down operations, suspension and/or recommendation of cancellation of lease (30 U.S.C. 1011, 30 CFR 270.80, 43 CFR 3244.3). The United States Criminal Code (18 U.S.C. 1001) makes it a criminal offense to make a willfully false statement or representation to any Department or Agency of the United States as to any matter within its jurisdiction.

UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY, CONSERVATION DIVISIONForm Approved  
Budget Bureau No. \_\_\_\_\_

## GEOTHERMAL UTILIZATION PERMIT

The U. S. Geological Survey requires this form or other Supervisor approved form to be prepared and filed in triplicate with requisite attachments with the Supervisor. The Supervisor must approve this permit prior to any lease operations.

1. NAME AND ADDRESS OF LESSEE		6. LEASE SERIAL NO. UPON WHICH FACILITY IS LOCATED
2. NAME AND ADDRESS OF OPERATOR		5. LEASE SERIAL NO(S). SERVING FACILITY
3. NAME AND ADDRESS OF CONTRACTOR AND/OR FACILITY DESIGNER		6. SURFACE MANAGER: SUR ( ) FS ( ) Other ( )
13. TYPE OF FACILITY: INDIVIDUAL WELL ( ) RESERCH & DEMONSTRATION ( ) PLANT ( ) OTHER ( )		7. UNIT AGREEMENT NAME
ESTIMATED PROJECT LIFE:		8. WELL NO., FACILITY NO. OR DESIGNATION
14. LOCATION OF FACILITY (1/4, 1/4, 1/4 SECTION)		9. FIELD OR AREA
15. NET GENERATING CAPACITY ELECTRIC (MW) HEAT (Btu)		10. SEC. T., R., S. & N.
16. GROSS GENERATING CAPACITY ELECTRIC (MW) HEAT (Btu)		11. COUNTY
17. NAME OF RESOURCE PURCHASER/USER (if other than lessee/operator)		12. STATE
18. APPROXIMATE START OF CONSTRUCTION	19. APPROXIMATE DATE OF START-UP	21. ELEVATIONS: ESTIMATED ( ) FINAL ( ) REFERENCE DATUM: GR ( ) NAT ( ) Other ( )
22. DESCRIPTION OF PROPOSED UTILIZATION PROGRAM (include a brief description of the facility, method of operation, manner of proposed utilization of the resource and the anticipated by-products and their proposed uses)		

23.

(Use additional sheets if necessary)

SIGNED: \_\_\_\_\_ TITLE: \_\_\_\_\_ DATE: \_\_\_\_\_

(This space for Federal use)

Approval is hereby granted for the construction of a geothermal utilization facility.

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

When all requirements set forth in the subject leases, laws, regulations and orders have been satisfied, approval to operate the geothermal utilization facility is hereby granted. This permit shall be effective for a period of \_\_\_\_\_ from the date the facility is certified as operational by the Geological Survey.

CERTIFIED BY \_\_\_\_\_ DATE \_\_\_\_\_ APPROVED BY \_\_\_\_\_ DATE \_\_\_\_\_  
District Geothermal Supervisor Area Geothermal Supervisor

This permit is required by law (30 U.S.C. 1023); regulations: 30 CFR 270.71-1; Federal Geothermal Lease Terms and Stipulations and other regulatory requirements. The United States Criminal Code (18 U.S.C. 1001) makes it a criminal offense to make a willfully false statement or representation to any Department or Agency of the United States as to any matter within its jurisdiction.

## INSTRUCTIONS

General: This form is designed for submitting a complete and accurate account of monthly activity and performance of geothermal wells and production facilities on Federal leases. The report must include all wells on the lease which have not been abandoned.

Item 9: Group wells together which are producing or injecting into the same reservoir or zone, and distinguish reservoirs or zones by name such as upper, lower, formation name, etc. Within each zone, list injection wells separately from production wells. In column 3, show the type of well reported (P=production, I=injection, D=disposal, WS=water supply, OS=observation, HE=heat exchange, O=other (specify under remarks)) and in parenthesis the current month end status for each well or completion (i=injecting, f=flowing, p=pumping, si=shut-in, susp=suspended, obs=observation, o=other (specify under remarks)). For heat exchange wells, report production in British thermal units, Btu and production rate in Btu/hr. Production or injection rate is the total amount of mass flow divided by the total number of active well hours.

Item 10: In reporting current operations, particular attention should be directed toward 30 CFR 270.74(e).

Remarks: Report in this section any environmental monitoring conducted, and the results obtained.

10. OPERATIONS CONDUCTED DURING MONTH: Describe Drilling, Remedial Drilling, Redrilling, Stimulation, Testing and other Well Work Performed.			
WSP, RGE, SEC, &M	WELL NUMBER	OPERATIONS CONDUCTED	MONTH END STATUS

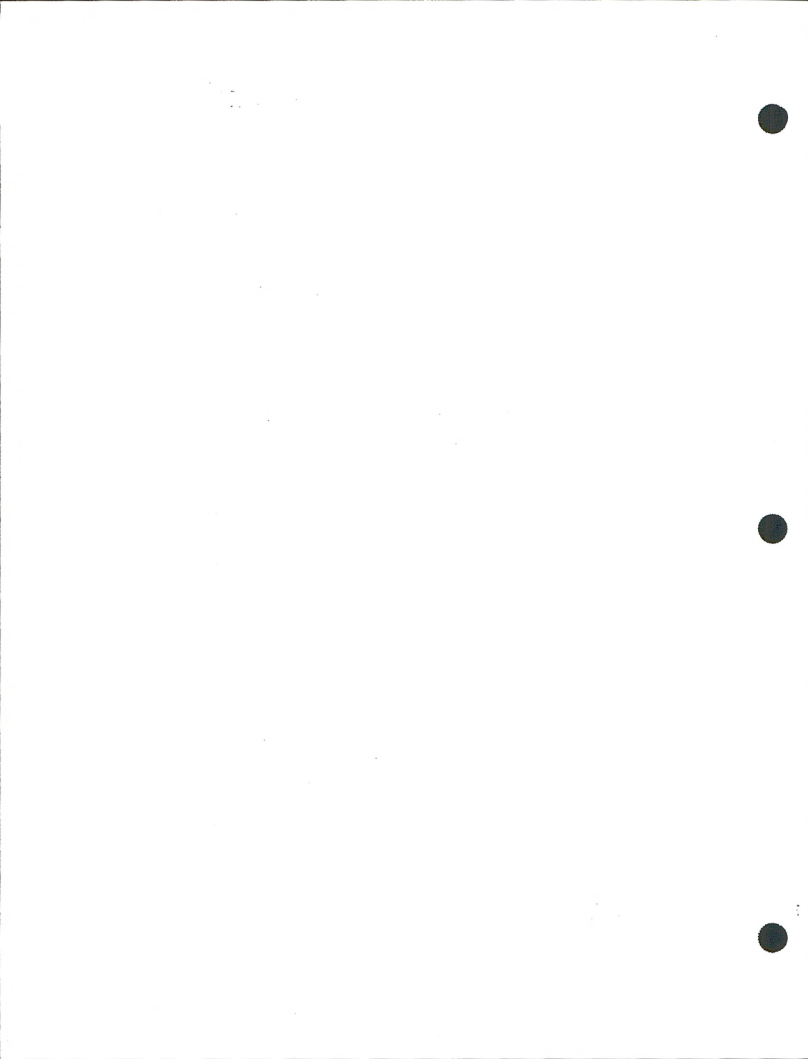
Remarks: (use additional pages if needed)

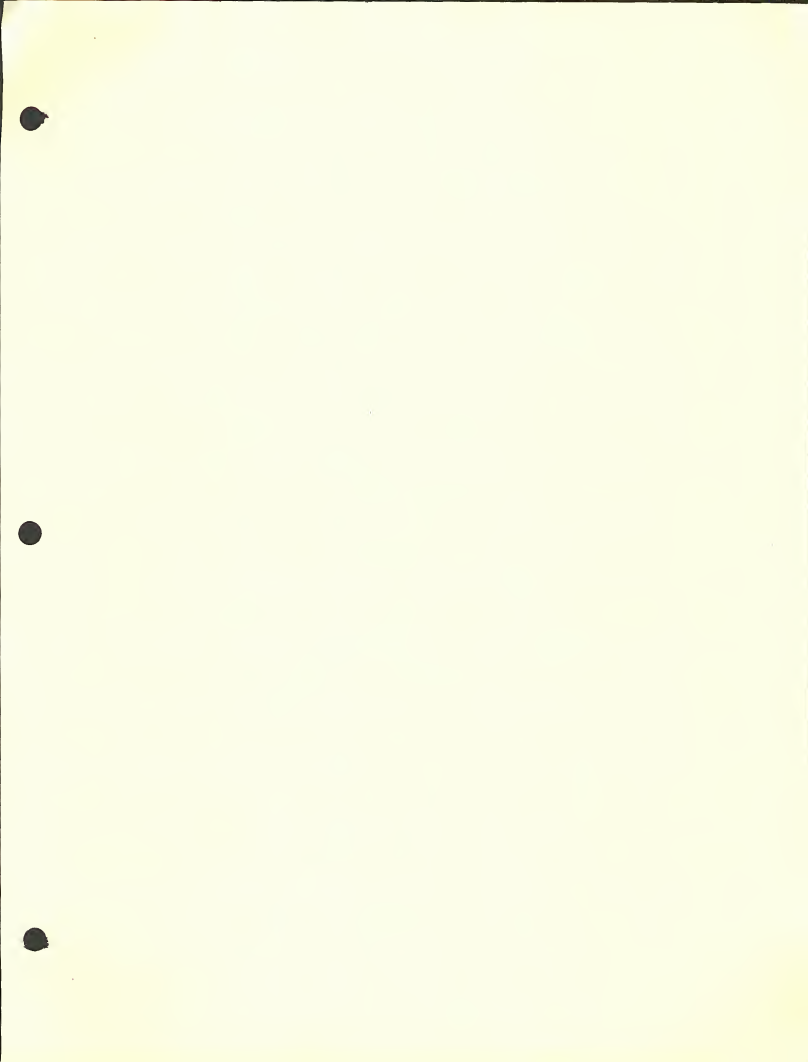
\*A Disposal well is used to inject fluids into the same formation or reservoir from which they are produced. An injection well is used for injection of fluids which are not produced from the formation or reservoir.

INSTRUCTIONS

GENERAL: This form shall be used for applications to construct and operate any utilization facility on Federally leased lands or lands under a unit or operative agreement. Approval to operate the utilization facility shall be obtained subsequent to the approval for construction, as provided for on form, and shall not be granted until all necessary requirements have been satisfied.









GEOHERMAL RESOURCES  
OPERATIONAL ORDERS

Issued under the Geothermal Steam Act of 1976

- GRO Order 6. Pipelines and Surface Production Facilities  
GRO Order 7. Production and Royalty Measurement, Equipment,  
and Testing Procedures



United States Department of Interior  
Geological Survey  
Office of Deputy Conservation Manager  
Geothermal

August 1980

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## UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY CONSERVATION DIVISION

### GEOHERMAL RESOURCES OPERATIONAL ORDER NO. 6

Effective January 1, 1977

#### PIPELINES AND SURFACE PRODUCTION FACILITIES

This Order is established pursuant to the authority prescribed in 30 CFR 270.11. The design, operation, and testing of all pipelines and surface facilities will be conducted in accordance with the provisions of this Order. All variances from the requirements specified in this Order shall be subject to approval pursuant to 30 CFR 270.48. References in this Order to approvals, determinations, or requirements are to those given or made by the Area Geothermal Supervisor (Supervisor) or his delegated representative.

The design of all pipelines and surface facilities, including but not limited to, production, injection, and waste water disposal systems, shall be submitted with the Application for Permit to Drill or on a Sundry Notice to the Supervisor for approval prior to construction. In addition, a Plan of Operation with contents and approval according to 30 CFR 270.34, shall be required when surface or environmental disturbances are anticipated beyond those covered by a previously approved Plan of Operation.

1. Design and Construction Requirements. All geothermal pipelines and surface facilities shall be designed and constructed in accordance with the following:

#### A. General Design

(1) Thermal Expansion. All pipelines and production facilities shall be designed to prevent failure in tension or compression due to thermal stresses based on limitations specified in applicable piping codes. Pipelines shall be anchored to isolate or transfer stress to the ground or solid structure, and to prevent unsafe movement in case of line failure. Main anchor locations are to be predicated on the surface configuration of the area, and may be required at pipe ends, at changes in direction, at shut-off valves, at manifolds where lines are interconnected, or at other points as dictated by the expansion design adopted. Intermediate anchors may be required to divide the pipeline into separate expanding sections and to bear any unbalanced

thrust. Intermediate supports between anchors should allow free lateral and longitudinal movement. Vibration, expansion direction and magnitude, and internal turbulence as well as effects of mineral scaling should be considered before including slip joints or expansion bellows in the design.

(2) Two-Phase Flow. Submission of complete design criteria and calculations may be required for planned two-phase production pipelines and surface facilities to demonstrate that the design of such facilities has given consideration to the water hammer stresses that may be caused by two-phase flow. Example stress calculations for the pipeline shall be submitted.

(3) Environmental Considerations. All pipelines and surface facilities shall be designed and constructed in accordance with the environmental protection requirements of GPO Order No. 4 and other applicable laws and regulations.

#### B. Safety Control Devices

(1) Production Pipelines and Related Facilities. All steam and hot water production pipelines and related surface facilities shall be equipped with the following devices except as noted in 1.B.(1)(d) below:

(a) Each producing well shall be equipped with a low pressure sensing device to actuate a valve to shut in production to minimize safety or pollution hazards caused by pipeline or facility failure.

(b) Pipeline and related surface facilities shall be protected against pressure buildup in excess of the system's design limit by high pressure sensors which will actuate either (1) well shut-in valves, or (2) system or well pressure relief valves and/or rupture discs. If only pressure relief valves and/or rupture discs are installed, it must be demonstrated that such venting in an emergency will not result in exceeding applicable pollution standards; otherwise shut-in valves shall be installed. Vented production must be properly handled so as to comply with provisions of GPO Order No. 4. A remote controlled shut-in or venting system may be required, in addition to pressure sensors.

(c) Check valves or other approved devices shall be required in the system to prevent uncontrolled crossflow from other parts of the system in case of a line or facility failure, or where a line failure may result in pollution due to line drainage.

(d) Exceptions to requirements 1.B.(1)(a) through (c) above may be made for systems or parts of systems where the lessee can demonstrate to the satisfaction of the Supervisor that lack of such controls will not result in danger of pollution or to public health

and safety. Information to be considered in an evaluation of a request: exception should include, but is not limited to, chemical analysis of the produced fluids, steam and gases; the rate, temperature and pressure of production; environmental conditions in the area; type of geothermal reservoir system; type of resource utilization; the number, hourly coverage, and supervision of personnel operating the facilities; and the type of manually operated controls installed.

(2) Injection Facilities. All injection pipelines and related surface facilities must be designed to safely accommodate maximum expected surface injection pressures and shall be equipped with the following devices, except as noted in 1.B.(1)(d) above.

(a) Each injection well shall be equipped with a pressure sensing or other approved device to actuate a valve to shut in injection to minimize safety or pollution hazards caused by injection pipeline or facility failure.

(b) Injection pipelines and related surface injection facilities shall be protected against pressure buildup in excess of the system's design limit by pressure sensors which will actuate either (1) well shut-in valves, or wellhead or injection pipeline shut-in valves, or (2) a system of well pressure relief valves and/or rupture discs. If only pressure relief valves and/or rupture discs are installed it must be demonstrated that such venting in an emergency will not result in exceeding applicable pollution standards; otherwise, shut-in valves shall be installed. A remote-controlled shut-in or venting system may be required, in addition to pressure sensors.

(c) Check valves or other approved devices shall be required to prevent uncontrolled backflow from injection wells in the system in case of a line or facility failure, or where a line failure may result in pollution due to line drainage.

#### C. Testing and Operation

##### (1) Pipeline Integrity Tests.

(a) Pipeline - steam. The pipe shall be joined and joint tested in accordance with appropriate piping codes for steam distribution systems. The pipeline shall be operationally tested in service with steam during the initial clean-out by pressure testing to the maximum anticipated working pressure for one hour. The Supervisor shall be notified at least 48 hours in advance of the estimated date and time of each test so that the test may be witnessed.

(b) Pipeline - water. The pipelines shall be hydrostatically tested to 1.25 times the design working pressure for a minimum of 2 hours prior to placing the line in service. Certain low pressure lines such as waste disposal drains and all piping designed for internal pressures

at or below 3 psig. regardless of temperature, may be exempted from this requirement, if authorized by the Supervisor. The Supervisor shall be notified at least 48 hours in advance of the estimated date and time of each test so that the test may be witnessed.

(2) Safety Device Tests. The automatic and remote control devices installed in accordance with 1.3.(1) and (2) above shall be tested semiannually or at more frequent intervals as required by the Supervisor. Advance notification of at least 48 hours shall be given so that the Supervisor may witness the test. The lessee shall maintain records on each device showing present status and past history, including dates and details of inspection, testing, repairing, adjustment, reinstallation or replacement, and will forward copies of these records to the Supervisor semiannually.

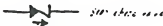
(3) Operator Monitoring. Production, injection, and other waste disposal systems which are not completely equipped with shut-in or relief devices, shall require 24-hour on-site monitoring by operator personnel unless it can be demonstrated to the satisfaction of the Supervisor that less frequent monitoring will not increase the danger of pollution or to human life and health. Supervisory control system monitoring by power plant or steam supply operators of steam turbine header pressure, water disposal liquid level and injection line pressure can be substituted for the above monitoring provision, if approved by the Supervisor.

2. Application for Construction of Pipeline and Related Surface Facilities. The operator shall submit the items listed below with the Application for Permit to Drill or on a Sundry Notice, in triplicate, to the Supervisor for approval. In addition, as appropriate, a Plan of Operation according to 30 CFR 270.34 items (a) through (i) may be required for submittal for joint approval by the Supervisor and the appropriate land management agency. Production and injection pipelines for wells may be included as a part of the Application for Permit to Drill and Plan of Operation required for drilling the well.

A. Maps. A plot(s) showing the major topographic features and other pertinent data including the proposed route, length, size, and location of the line(s), and any connecting facilities.

B. Equipment Plans. A schematic drawing showing the location of the following pipeline and facilities safety equipment and the manner in which the equipment functions:

- (1) high-low pressure sensor(s)
- (2) automatic shut-in valve(s)
- (3) check valve(s)
- (4) metering system(s)
- (5) pressure relief valve(s)
- (6) other manual or automatic valve(s) or equipment



C. Design Information. General information concerning the pipeline and facilities including the following:

- (1) Product(s) to be transported by the pipeline
- (2) Size, weight, and grade of the pipeline
- (3) Length of line(s)
- (4) Type(s) of corrosion protection
- (5) Description of protective coatings
- (6) Description of pipe insulation and the application of exterior color camouflage
- (7) Anticipated gravity or density of the product(s) and a chemical analysis
- (8) Design working pressure and capacity
- (9) Maximum working pressure and capacity
- (10) Pipeline integrity tests  
Steam Pipeline - testing pressure and hold time to which the pipeline will be tested after installation.

Water Pipeline - hydrostatic pressure and hold time to which the pipeline will be tested after installation.

(11) Other related information as required by the Supervisor

3. Completion Report. The operator shall submit a report to the Supervisor when installation of the pipeline is completed, accompanied by all hydrostatic test data, including procedure, test pressure, hold time, end results.

*Reid T. Stone*  
Reid T. Stone  
Area Geothermal Supervisor

APPROVED:

*Edric R. Wyatt*  
Russell E. Weyland  
Acting Chief, Conservation Division



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
CONSERVATION DIVISION

GEO Order No. 7: Production and Royalty Measurement,  
Equipment, and Testing Procedures

GEO THERMAL RESOURCES OPERATIONAL ORDER NO. 7

Effective January 1, 1977

PRODUCTION AND ROYALTY MEASUREMENT, EQUIPMENT, AND TESTING PROCEDURES

This Order is established pursuant to the authority prescribed in 30 CFR 270.11 and 270.12 and in accordance with 30 CFR 270.60, 270.64, 270.74, and 270.75. All geothermal production and the resulting produced energy (electricity) or byproducts, and leasehold operational utilization thereof, shall be measured and monitored in accordance with the provisions of this Order.

All variances from the requirements specified in this Order shall be subject to approval pursuant to 30 CFR 270.48. References in this Order to approvals, determinations, or requirements are to those given or made by the Area Geothermal Supervisor (Supervisor) or his delegated representatives.

All metering systems shall be approved by the Supervisor prior to installation. Field production metering shall be accomplished with sufficient accuracy to assure that royalty calculations using such measurement data will result in fair market value to the Government, and to enable evaluation of well and reservoir production performance and trends. Where royalty is due on other than a well production basis, i.e., plant output in kilowatt hours or production of byproducts, metering systems used in that regard shall also be approved by the Supervisor.

1. Metering. The general requirements and accuracy for measuring production and utilized energy or byproducts of geothermal resources are outlined below:

A. Measurement of Production. Surface facilities and measuring devices shall be installed so that the production mass flow rate (or volume, when appropriate) of water and/or steam and the pressure and temperature of the produced fluids from each well are accurately determined. If metering is not to be accomplished on a continuous basis, each well shall be gauged periodically at the frequency prescribed by the Supervisor.

The operator shall maintain detailed records available for inspection by the Supervisor concerning the performance measurements relative to each well. The record shall show average flow rates, temperature, pressure, and any other pertinent data gathered. Except for drilling and well workover operations, and low rate venting of new geothermal wells to prevent well bore damage prior to facility hook up, vented production shall also be measured and reported.

Each well shall be equipped to permit fluid sampling for determining the enthalpy and chemical content of produced geothermal fluids. Enthalpy and chemical analysis for each well shall be provided the Supervisor yearly or more frequently if required by the Supervisor.

B. Royalty Metering. Metering systems involved in the calculation of royalty values due shall be designed, installed, operated, and maintained to attain the accuracy herein specified. However, the Supervisor may require greater accuracy where conditions dictate that necessity and the technology exists, or may permit a lesser degree of accuracy when physical problems, such as severe corrosion or scaling, preclude attainment of the desired standards.

(1) Steam. Dry steam metering systems and the mass flow calculations derived therefrom shall be designed and maintained to achieve an accuracy of  $\pm 4.0\%$  of the measured flow.

(2) Hot Water. Hot water metering systems and the mass flow or volumetric calculations derived therefrom shall be designed and maintained to achieve an accuracy of  $\pm 3.0\%$  of the measured flow.

(3) Steam and Water (two-phase flow). Metering of two-phase flow shall be designed and maintained to achieve the maximum reasonable attainable accuracy consistent with the nature of the production to be measured. Due to the complexity and difficulties involved in this type of metering, the Supervisor shall establish the initial accuracy limits for each specific installation based on the nature of existing flow conditions and commensurate with the then existing state-of-the-art. The operator shall, upon request, demonstrate to the satisfaction of the Supervisor that the approved metering system(s) being employed is operating within the prescribed range of accuracy. The Supervisor is authorized, when warranted, to require modifications in the system consistent with new technology to improve the accuracy of measurement or, when required accuracy is not attainable, to direct that the two-phase fluid flow be separated and the steam and water metered individually.

(4) Heat Content. Where the heat content of produced water or steam is the primary use, including but not limited to heating a greenhouse complex, space heating, and plant processing, metering systems shall be designed and maintained to achieve an accuracy of  $\pm 2.0\%$  for both the input and discharge flows.

(5) Electrical Power Output or Consumption. Where the resource sales payment is equated to kilowatts of electric power output or geothermal-produced electricity is consumed in geothermal operations, the metering systems shall be designed and maintained to achieve an accuracy of  $\pm 0.5\%$ .

(6) By-Products. When the by-product is in liquid form, metering accuracies shall be maintained within  $\pm 1.0\%$ . When the by-product is a solid, measurement thereof shall be either by volume or weight and shall be accurate to  $\pm 1.0\%$ .

(7) Waste Heat. Waste heat shall be metered in accordance with the standards set forth in 1.B.(4) when such measurements are involved in royalty calculations.

C. Non-Royalty Metering. Measurement of produced or injected fluids that are not involved directly in royalty calculations, such as waste waters or injected waters shall be metered with accuracies sufficient to evaluate well, reservoir, and project performance. Such metering systems shall be designed and maintained to achieve an accuracy of  $\pm 5.0\%$ , unless otherwise specified by the Supervisor.

2. Commingling Production. In accordance with 30 CFR 270.64, the Supervisor may authorize a lessee to commingle production from wells on a lease with production from other leases held by the lessee or by other lessees subject to such conditions as the Supervisor may prescribe. Where utilization of the geothermal resource for energy and/or by-products involves commingling production from two or more leases, the following conditions and requirements shall be met:

A. The surface facilities, metering, and fluid sampling systems employed shall be approved by the Supervisor.

B. The commercially utilized production leaving each lease shall be measured in accordance with the standards set forth in Section 1 hereof, either on or off the leasehold, in a manner that will allow accurate allocation and royalty calculation for that lease.

3. Common Storage. Where commercial utilization involves common storage from two or more leases, e.g., a common brine evaporation pool for production of chemical by-products, the contributions of each lease to that facility shall be measured in accordance with the standards set forth in Section 1 hereof, either on or off the leasehold, in a manner that will allow accurate allocation and royalty calculation for that lease. The surface facilities, metering, and fluid sampling systems employed shall be approved by the Supervisor.

4. Meter Testing and Maintenance. All meters and metering systems shall be maintained in acceptable working condition and shall be inspected, tested, and adjusted to meet appropriate design standards.

The frequency and stringency of tests shall be prescribed by the Supervisor. The Supervisor may witness any periodic metering system test or inspection, and the operator shall schedule an acceptable time and date for such tests when requested by the Supervisor.

A. Royalty Meter Tests and Inspections. The following tests and inspections shall be performed on all meters involved in royalty calculations. Depending on inspection results, the Supervisor may alter the inspection frequencies herein specified.

(1) Orifice Meter Tests and Inspections.

(a) Visual functional inspection shall be performed as part of the daily well check. Recorders shall be inspected for malfunctions at that time and repaired if necessary.

(b) Recorders shall be inspected and the calibration checked with master test gauges at least once per month. The equipment used for the calibration check shall verify the differential and static pressure ranges. Field error of a meter exceeding  $\pm 1.0\%$  of the meter's differential and static pressure ranges shall require removal of that instrument and installation of a recalibrated instrument.

(c) Orifice plates and meter tube runs shall be inspected by the operator for wear and recalibrated to the nearest thousandth of an inch. Worn plates or runs shall be remachined or replaced. The inspection period shall depend on well performance and on the production demand, but meter runs and accessory equipment shall be inspected at intervals not exceeding one year.

(2) Turbine Meter Tests and Inspections.

(a) Daily readout checks shall be made to verify functional operation.

(b) At least once every six months, the turbine meter shall be checked for accuracy with a prover. If a discrepancy in excess of  $\pm 0.5\%$  over limited range or  $\pm 1.0\%$  over stated range is noted, the meter shall be inspected for bearing wear, turbine damage, or corrosion and repaired or replaced as necessary.

(3) Electrical Meters (Power Meters).

(a) Inspect daily for function.

(b) A detailed check and inspection shall be accomplished at least once each month.

(c) At least every six months, the meter shall be calibrated with a master meter. The meter shall be repaired or replaced if discrepancy greater than  $\pm 0.5\%$  is found.

(4) Other Types of Meters.

(a) Where metering systems depend on static and differential pressure measurements, e.g., venturi or nozzles, testing shall be as outlined above for orifice meters in 4.A.(1).

(b) Testing procedures and frequencies for all other metering systems shall be as approved by the Supervisor.

B. Non-Royalty Meter Tests and Inspections. Metering systems measuring produced or injected fluids which are not involved in royalty calculation shall normally be checked at least weekly for functional operation, and be inspected, calibrated, and/or proven at yearly intervals to demonstrate an overall accuracy of  $\pm 3.0\%$ , unless otherwise specified by the Supervisor.

5. Application for Meter Installation. All metering systems shall be approved by the Supervisor prior to installation. Approval may be obtained by inclusion of the required details in a Plan of Exploration, Development, or Production, or where appropriate, separately by submission of a Sundry Notice, in triplicate, to the Supervisor.

Applications shall include the following information:

A. Purpose of the meter and whether it will be involved in royalty calculations.

B. Location; e.g., Well No. 53-6, SE $\frac{1}{4}$ SE $\frac{1}{4}$ , Section 6, T. 3 S., R. 10E., N.D.M.

C. What is to be metered, such as steam, water, or combination thereof, and appropriate physical characteristics, such as the temperature, pressure, density, corrosive or scaling tendencies, and a chemical analysis.

D. Anticipated average and range of daily rates to be metered.

E. If the meter is involved in royalty calculations, the estimated monthly gross dollar value that will be measured by the meter and how the measurement will be used in royalty calculations.

F. Drawing of the installation showing piping, locations of equipment, and valves.

G. If not shown in a drawing, indicate (a) type of meter, manufacturer, model number, and range of coverage; (b) pressure ratings of piping, valves, and other equipment; and, (c) design code or standards used for installation design.

H. Anticipated accuracy.

I. Proposed inspection, testing or calibration procedures and the testing schedule.

*Reid T. Stone*

Reid T. Stone  
Area Geothermal Supervisor

APPROVED:

*Eddie R. Wyatt*

Russell G. Wayland  
Acting Chief, Conservation Division

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March 1986

GEOTHERMAL ENERGY DEVELOPMENT  
IN WASHINGTON STATE

A GUIDE TO THE  
FEDERAL, STATE, AND LOCAL  
REGULATORY PROCESS

By  
R. Gordon Bloomquist, Ph.D. (206-586-5074)  
and  
Stuart J. Simpson (206-586-5052)

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WASHINGTON STATE ENERGY OFFICE

Richard H. Watson, Director  
400 East Union / First Floor / ER-11  
Olympia, Washington 98504

APPENDIX 111

APPENDIX 111

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## ABSTRACT

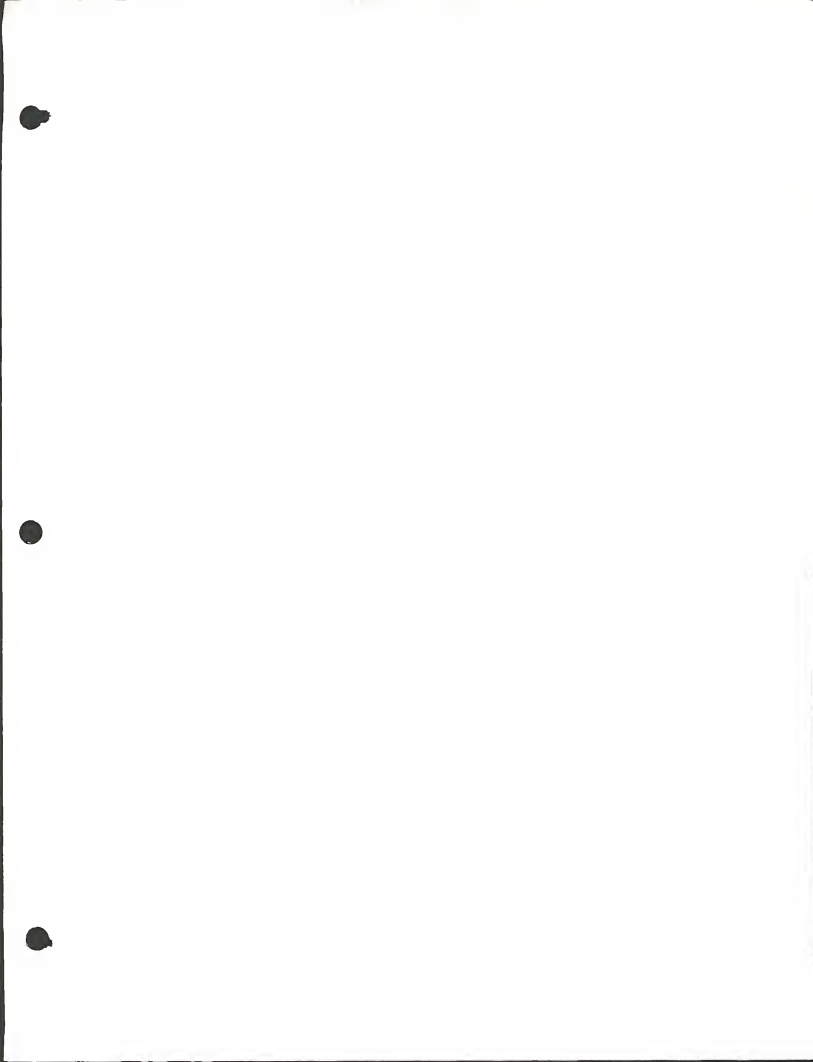
Washington State's geothermal potential is wide spread. Hot springs and five strato volcanoes existing throughout the Cascade Range, limited hot spring activity on the Olympic Peninsula, and broad reaching, low temperature geothermal resources found in the Columbia Basin comprise the extent of Washington's known geothermal resources.

Determination of resource ownership is the first step in proceeding with geothermal exploration and development activities.

The federal and state processes are examined from pre-lease activity through leasing and post-lease development concerns.

Plans, permits, licenses, and other requirements are addressed for the federal, state, and local level. Lease, permit, and other forms for a number of geothermal exploration and development activities are included.

A map of public lands and another displaying the measured geothermal resources throughout the state are provided.







# Illustrations





Form 3200-24  
(November 1984)UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM APPROVED  
OBM NO. 1004-0038  
Expires January 31, 1986

## OFFER TO LEASE AND LEASE FOR GEOTHERMAL RESOURCES

Serial No.

The undersigned (see reverse) offers to lease all or any of the lands in item 2 that are available for lease pursuant to the Geothermal Steam Act of 1970 (30 U.S.C. 1001-1025).

## Read Instructions Before Completing

1. Name

Street

City, State, Zip Code

2. Surface managing agency if other than BLM:

Unit/Project

Legal description of land requested (segregate by public domain and acquired lands):

T.

R.

Meridian

State

County

## Instructions

## A. General

1. Items 1 and 2 must be completed only by person filing for a noncompetitive lease. The BLM will complete front of form for all other types of leases.

2. Entries must be typed or printed plainly in ink. Offeror must sign item 4 in ink.

3. An original and two copies of this offer must be prepared and filed in the proper BLM State Office. See regulations at 43 CFR 182.1.2-1 for office locations.

4. If more space is needed, additional sheets must be attached to each copy of the form submitted.

## B. Special:

Item 1—Enter offeror name and billing address

Item 2—Indicate the agency controlling the surface use of the land and the nature of the use

or property of which the land is a part. Offeror may also provide other information that will assist in establishing title for minerals. The description of land must conform to 43 CFR 3203.4. Total acres applied for must not exceed that allowed by regulations.

Payments: The amount retained must include the filing fee and the first year's rental at the rate of \$1 per acre or fraction thereof. The full amount based on the total acreage applied for must accompany an offer unless the estimated amount of the United States is less than 100 percent. The filing fee will be returned as a service charge unless if the offer is completely rejected or withdrawn. To prevent priority, it is important that the amount submitted be sufficient to cover all the land requested. If the total requested includes less or irregular quarter-quarter sections, the exact area of which is not known to the offeror, must be submitted on the basis of each such lot or quarter-quarter section containing 40 acres. If the offer is withdrawn or rejected in whole or in part before a lease is made, the amount retained for the part withdrawn or rejected will be returned.

Item 3—This space will be completed by the United States.

Total acres applied for \_\_\_\_\_

Percent U.S. interest \_\_\_\_\_

Total \$ \_\_\_\_\_

Amount remitted: Filing fee \$ \_\_\_\_\_

Rental fee \$ \_\_\_\_\_

## DO NOT WRITE BELOW THIS LINE

3. Land included in lease:

T.

R.

Meridian

State

County

## PAPERWORK REDUCTION ACT STATEMENT

1. This information is being collected pursuant to the law (43 CFR 3200).

2. This information will be used to create and maintain a record of geothermal lease activity.

3. Response to this request is required to obtain a benefit.

## NOTICE

The Privacy Act of 1974 and the regulations at 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this geothermal lease application:

AUTHORITY: 30 U.S.C. at 101

PRINCIPAL PURPOSE—This information is to be used to process geothermal lease applications.

## ROUTINE USES:

(1) The adjudication of the lessee's rights to the land or resources.

(2) Documentation for public information in support of decisions made on land status records for the management, disposal, and use of public lands and resources.

(3) Transfer to appropriate Federal agencies when concurrence is required prior to granting a right in public lands or resources.

(4) Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions.

EFFECT OF NOT PROVIDING INFORMATION—If all the information is not provided, the offer may be rejected. See regulations at 43 CFR 3200.

Total acres in lease \_\_\_\_\_

Rental retained \$ \_\_\_\_\_

In accordance with the above offer, or the previously submitted competitive bid, this lease is issued granting the exclusive right to drill for, extract, produce, remove, utilize, sell, and dispose of all the geothermal resources in the lands described in item 3 together with the right to build and maintain necessary improvements thereupon, for a primary term of 10 years. Rights granted are subject to applicable laws, the terms, conditions, and attached stipulations of this lease, the Secretary of the Interior's regulations and formal orders in effect as of lease issuance and, when not inconsistent with lease rights granted or specific provisions of this lease, regulations and formal orders hereafter promulgated.

THE UNITED STATES OF AMERICA

Type of lease

☐ Noncompetitive☐ Competitive☐ Other \_\_\_\_\_by \_\_\_\_\_  
(Signing Officer)

(Title)

(Date)

EFFECTIVE DATE OF LEASE \_\_\_\_\_

4. (a) Undersigned certifies that:

- (1) Offeror is a citizen of the United States; an association of such citizens; a municipality; or a corporation organized under the laws of the United States, any State or the District of Columbia. (2) All parties holding an interest in the offer are in compliance with 43 CFR 13000 the authorizing Act. (3) Offeror's chargeable interests, direct and indirect, do not exceed that allowed under the Act; and (4) Offeror is not considered a minor under the laws of the State in which the lands covered by this offer are located.
- (b) Undersigned agrees that signature to this offer constitutes acceptance of this lease, including all terms, conditions and stipulations of which offeror has been given notice, and any amendment or separate lease that may cover any land described in this offer open to lease application at the time this offer was filed but omitted for any reason from this lease. The offeror further agrees that this offer cannot be withdrawn, either in whole or part, unless the withdrawal is received by the BLM State Office before this lease, an amendment to this lease, or a separate lease, whichever covers the land described in the withdrawal, has been signed on behalf of the United States.

This offer will be rejected and will afford the offeror no priority if it is not properly completed and executed in accordance with the regulations, or if it is not accompanied by the required payments. Title 16 U.S.C. Sec. 1001 makes it a crime for any person knowingly and willfully to make to any Department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Duly executed this \_\_\_\_\_ day of \_\_\_\_\_, 19 \_\_\_\_\_.

(Signature of Lessee or Attorney-in-fact)

## LEASE TERMS

Sec. 1. **Rentals**—Rentals shall be paid to proper office of lessor in advance of each lease year for production in commercial quantities from the leased lands. Annual rental rates per acre or fraction thereof are: \$1 for noncompetitive leases and \$2 for competitive leases.

If this lease or a portion thereof is commuted to an approved cooperative or unit plan which includes a well capable of producing leased resources, and the plan contains a provision for allocation of production, royalties shall be paid on the production allocated to this lease. However, annual rentals shall continue to be due for those lands not within a participating area.

Failure to pay annual rental, if due, on or before the anniversary date of this lease (or next official working day if office is closed) shall automatically terminate this lease by operation of law. Rentals may be suspended by the Secretary upon a sufficient showing by lessee.

Sec. 2. **Royalties**—Royalties shall be paid to proper office of lessor. Royalties shall be computed in accordance with regulations and orders. Royalty rates on production are: 10 percent for steam, heat, or energy; 5 percent for byproducts; and 5 percent for demineralized water.

Lessee reserves the right to establish reasonable minimum values on production after giving lessee notice and an opportunity to be heard. Royalties shall be due and payable on the last day of the month following the month in which production occurred.

A minimum royalty shall be due for any lease year beginning on or after the commencement of production in commercial quantities in which royalty payments aggregate less than \$2 per acre. Lessee shall pay such difference at the end of lease year. This minimum royalty may be waived, suspended, or reduced, and the above royalty rates may be reduced for all or portions of this lease if the Secretary determines that such action is necessary to encourage the greatest ultimate recovery of the leased resources, or is otherwise justified.

Sec. 3. **Bonds**—Lessee shall file and maintain any bond required under regulations.

Sec. 4. **Diligence, rate of development, utilization, and drainage**—Lessee shall perform diligent exploration as required by regulations and shall prevent unnecessary damage to, loss of, or waste of leased resources. Lessor reserves right to specify rates of development and production on the public interest and to require lessee to subscribe to a cooperative or unit plan, within 30 days of notice, if deemed necessary for proper development and operation of the area, field, or pool embracing these leased lands. Lessee shall drill and produce wells necessary to protect leased lands from drainage or pay compensatory royalty for drainage in amount determined by lessor.

Sec. 5. **Documents, evidence, and inspection**—Lessee shall file with proper office of lessor, not later than 30 days after, effective date thereof, any contract or evidence of other arrangement for the sale or disposal of production. Lessee shall keep open at all reasonable times for inspection by any authorized officer of lessor, the leased premises and all wells, improvements, machinery, and fixtures thereon, and all books, accounts, maps, and records relative to operations, surveys, or investigations on or in the leased lands. Lessee shall maintain copies of all contracts, sales agreements, accounting records, and documentation such as billings, invoices, or similar documentation that support costs claimed as manufacturing, preparation, and/or transportation costs. All lease shall maintain required records for 8 years after they are generated or, if an audit investigation is underway, until released of the obligation to maintain such records by lessor.

During existence of this lease, information obtained under this section shall be closed to inspection by the public in accordance with the Freedom of Information Act (5 U.S.C. 552).

In the event improvements by lessor, lessee shall keep a daily drilling record, a log, and complete information on well surveys and tests and keep a record of subsurface investigations and furnish copies to lessor when required. Lessee shall keep open at all reasonable times for inspection by any authorized officer of lessor, the leased premises and all wells, improvements, machinery, and fixtures thereon, and all books, accounts, maps, and records relative to operations, surveys, or investigations on or in the leased lands. Lessee shall maintain copies of all contracts, sales agreements, accounting records, and documentation such as billings, invoices, or similar documentation that support costs claimed as manufacturing, preparation, and/or transportation costs. All lease shall maintain required records for 8 years after they are generated or, if an audit investigation is underway, until released of the obligation to maintain such records by lessor.

During existence of this lease, information obtained under this section shall be closed to inspection by the public in accordance with the Freedom of Information Act (5 U.S.C. 552).

Sec. 6. **Conduct of operations**—Lessee shall conduct operations in a manner that minimizes adverse impacts to the land, air, and water, to cultural, biological, visual, and other resources, and to other land uses or users. Lessee shall take reasonable measures deemed necessary by

lessor to accomplish the intent of this section. To the extent consistent with leased rights granted, such measures may include, but are not limited to, modifications to siting or design of facilities, timing of operations, and specification of use and final reclamation measures. Lessor reserves the right to continue existing uses and to authorize future uses upon or in the leased lands, including the approval of easements or rights-of-way. Such uses shall be conditioned so as to prevent unnecessary or unreasonable interference with rights of lessee.

Prior to disturbing the surface of the leased lands, lessee shall contact lessor to be apprised of procedures to be followed and modifications or reclamation measures that may be necessary. Areas to be disturbed may require inventories or special studies to determine the extent of impacts to other resources. Lessee may be required to complete minor inventories or short term special studies under guidelines provided by lessor. If in the conduct of operations, threatened or endangered species, objects of historic or scientific interest, or substantial unanticipated environmental effects are observed, lessee shall immediately contact lessor. Lessee shall cease any operations that would result in the destruction of such species or objects.

Sec. 7. **Production of byproducts**—If the production, use, or conversion of geothermal resources from these leased lands is susceptible of producing a valuable byproduct or byproducts, including commercially demineralized water for beneficial use in accordance with applicable State water laws, lessor may require substantial beneficial production or use thereof by lessee.

Sec. 8. **Damages to property**—Lessee shall pay lessor for damage to lessor's improvements, and shall save and hold lessor harmless from all claims for damage or harm to persons or property as a result of lease operations.

Sec. 9. **Protection of diverse interests and equal opportunity**—Lessee shall maintain a safe working environment in accordance with standard industry practices and take measures necessary to protect the health and safety of the public. Lessor reserves the right to ensure that production is sold at reasonable prices and to prevent monopoly.

Lessee shall comply with Executive Order No. 11246 of September 24, 1965, as amended, and regulations and relevant orders of the Secretary of Labor issued pursuant thereto. Neither lessor nor lessee's subcontractor shall maintain segregated facilities.

Sec. 10. **Transfer of lease interests and relinquishment of lease**—As required by regulations, lessee shall file with lessor, any assignment or other transfer of an interest in this lease. Lessee may relinquish this lease or any legal subdivision by filing in the proper office a written relinquishment, which shall be effective as of the date of filing, subject to the continued obligation of the lessee and surety to pay all accrued rentals and royalties.

Sec. 11. **Delivery of premises**—At such time as all or portions of this lease are returned to lessor, lessee shall place all wells in condition for suspension or abandonment, reclaim the land as specified by lessor, and within a reasonable period of time, remove equipment and improvements not deemed necessary by lessor for preservation of producible wells or continued production of the environment.

Sec. 12. **Proceedings in case of default**—If lessee fails to comply with any provisions of this lease, and the noncompliance continues for 30 days after written notice thereof, this lease shall be subject to cancellation in accordance with the Act. However, if this lease includes land known to contain a well capable of production in commercial quantities, it may be cancelled only by judicial proceedings. This provision shall not be construed to prevent the exercise by lessor or any other legal or equitable remedy, including waiver of the default. Any such remedy or waiver shall not prevent later cancellation for the same default occurring at any other time.

Whenever the lessee fails to comply in a timely manner with any of the provisions of this lease, the regulations, or formal orders, and immediate action is required, the Lessor may enter on the leased lands and take measures deemed necessary to correct the failure at the expense of the Lessee.

Sec. 13. **Heirs and successors-in-interest**—Each obligation of this lease shall extend to and be binding upon, and every benefit hereof shall accrue to, the heirs, executors, administrators, successors, or assigns of the respective parties hereto.

04/12/88 USDI \* BUREAU OF LAND MANAGEMENT \* OREGON STATE OFFICE

PG 61

## SERIAL REGISTER PAGE

GEO STATE: OREGON SERIAL NO: OROR 32708  
 CASE TYPE: 321000 GEO-LEASE (NC)  
 LEGAL REF: GEO-LEASE (NC): ACT 12/24/1970, 30 USC COMMODITY: GEOTHERMAL

NAME	ADDRESS	% INTRST INTEREST
SEA-TAC GEOTHERMAL	519 SW PARK #410 PORTLAND, OR 97205	100.00000 LESSEE

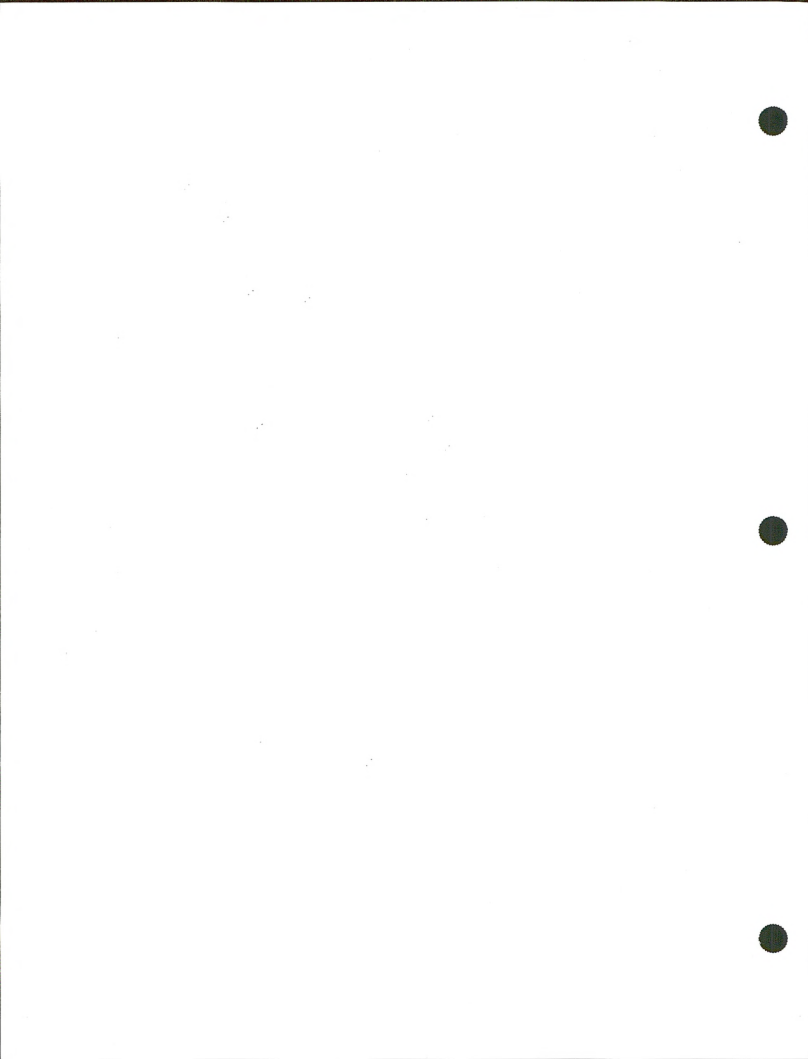
M_ TOWN	RANGE	SEC	SUBDIVISION	SURFACE MGMT AGENCY
33	20-0S	8-0E	21 ALL 22 ALL 27 ALL 34 ALL	DESCHUTES NF

\*\*\*\*\* TOTAL ACRES: 2560.000 \*\*\*\*\*

ACTN DATE	CODE	ACTION	ACTION REMARKS	PEND ACT
08/28/1981	124	APLN FILED		
09/01/1981	888	DRAWING HELD	PRIORITY #19	
05/18/1984	241	AUTH OFFERED APPLICANT		
06/04/1984	237	LEASE ISSUED		
07/01/1984	868	EFFECTIVE DATE		
05/17/1985	365	DEC REMANDED	87 IBLA 1	
06/07/1985	127	SUSPENDED		
10/18/1985	120	APPEAL FILED		
12/31/1985	119	APPEAL DISMISSED	IBLA 86-80	
02/03/1986	282	REINSTATEMENT APPROVED	NEW ANNIVERSARY3-1-86	
02/29/1988	311	RELQ FILED		
03/08/1988	310	RELQ ACCEPTED		
03/18/1988	970	CASE CLOSED		

STATE	ENTITY	ACRES
	PRINEVILLE DISTRICT OREGON	2560.000
OREGON	DESCHUTES COUNTY OREGON	2560.000
	DESCHUTES NF	2560.000

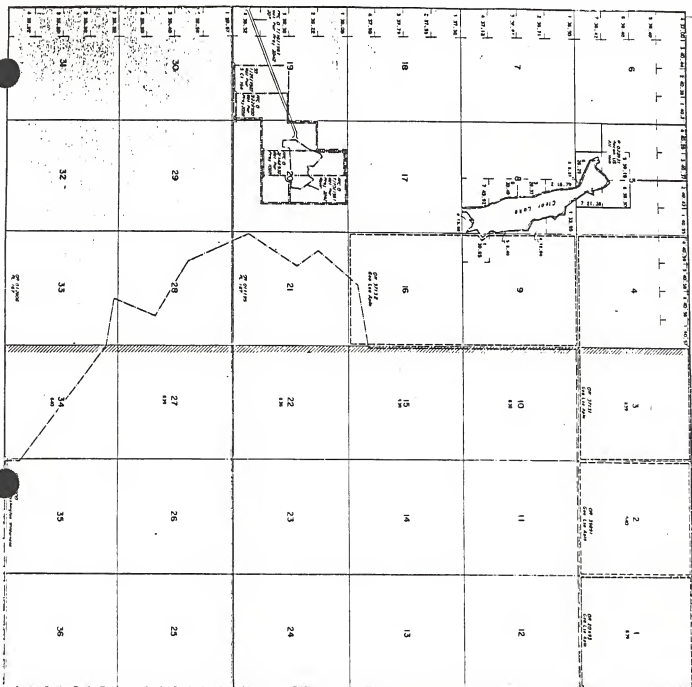
CASE DISPOSITION: 03/18/1988 CLOSED





## GEO PLAT

MODE TO SEGREGATED TRACTS				
Tract	City	State	Year	Value
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9
10	10	10	10	10
11	11	11	11	11
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100	100	100	100	100

[illegible]

CONTRACT NO.	BY
DATE	
PROJECT NO.	
PROJECT NAME	
PROJECT LOCATION	
PROJECT DESCRIPTION	
PROJECT STATUS	
PROJECT CONTACT	
PROJECT COMMENTS	

ABBREVIATIONS USED ON LAND STATUS RECORDS

[illegible]

### Reading a Plat

The lead status records are designed to portray the title story by use of liner and outtakes. Using the suggestions listed below will help in making the records easy to read:

1. Always follow a particular line around until you return to the point of beginning. The area within that boundary is the land affected by the action identified.

2. To find the notation for a particular area, know what that line stands for.
3. Identification of the land circumstances usually ensue to the same extent of...

usually appears in the lower center of the area levelled. If space does not allow a lower center placement of the notation, it may appear to one side or even outside the area circumscribed and entered in.

4. When the plot is too small to adequately depict the status, a supplemental plot is prepared on a larger scale. If a supplemental plot has been made, the plot will so indicate.

## Source Documents

Title information on plots are taken from microfilm copies of documents such as patents, withdrawal orders, State acquisition lists, etc. These microfilm records are kept in the State Office Land Records. Paper copies of source documents, as well as copies of plots and indexes may be purchased from the Land Records. Please ask for a current form for schedule.

**CASE FILE SERIAL NUMBERS**

2008.02.02

1908 through 1948

6 Burnt Land Office, 1908 - 1925

L	Lakeview Land Office, 1908 - 19
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LC	LaGrande Land Office, 1908 - 19
B	Burland Land Office, 1908 - 19

1930 - 1931

TO The Police Land Office, 1908 -

Vale Land Office, 1908 - 1911

1948 through 1966

On 0 \_\_\_\_\_ Oregon Land Office, all are

numbers have 6 profile

1964 through present

03 \_\_\_\_\_ Oregon State Office with

jurisdiction over Washington

WASHINGTON

1929 through 1950

Climate Land Office, 1928 - 1931

8 Seattle Land Office, 1908 - 1913

Spokane Land Office, 1908 - 1941

V Vestover Land Office, 1938 - 1940  
M Moonville Land Office, 1938 - 1940

WV Wells Wells Land Office, 1908 =

T Teklan Land Office, 1908 - 1913

1948 through 1968

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Washington case files here &

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(1)OR \_\_\_\_\_  
Exhibit "A"

Special Stipulations  
\_\_\_\_\_ National Forest

The lessee shall comply with the following special conditions and stipulations unless they are modified by mutual agreement of the lessee, the authorized officer of the Bureau of Land Management and the authorized representative of the United States Department of Agriculture, Forest Service.

1. All surface disturbing operations, other than "casual use" as defined by 43 CFR 3209.0-5(d), must be culturally cleared by the authorized representative of the Forest Service. When a lessee cultural report is necessary to comply with standard lease term No. 6, it must be signed and certified by a qualified archaeologist acceptable to the authorized representative of the Forest Service.
2. The lessee shall make every possible effort to prevent, control and suppress any fire on federally owned or managed lands or near the lease operational site. All uncontrolled fires shall be immediately reported to Forest Dispatch \_\_\_\_\_.
3. Prior to submission of a plan of operation for surface disturbing operations, the lessee shall meet with the authorized representative of the Forest Service, to be apprised of specific requirements, restrictions, administrative rules and regulations, e.g., \_\_\_\_\_.  
This meeting may be waived if the lessee is sufficiently aware of local problems and ground rules of the area involved in the proposed operation.

(2)

\_\_\_\_\_. The leased lands may be in an area suitable for the habitat of threatened or endangered plant or animal species. All known viable habitat of these species will be identified for the lessee by the authorized officer of the BLM or the authorized representative of the Forest Service at the pre-operational conference or field inspection with recommended mitigation measures. These may include (1) on-site biological and/or botanical surveys by authorities acceptable to the surface manager, (2) avoidance, or (3) lessee recommendation of programs complying with the provisions of the Endangered Species Act of 1973 as amended.

(3)

- \_\_\_ In order to protect \_\_\_\_\_, the lessee agrees not to occupy or use the surface of the following described lands unless this stipulation is modified or eliminated.

Willamette Meridian, \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(4)

- \_\_\_ In order to protect \_\_\_\_\_, the lessee agrees not to occupy or use the surface of the following described lands except for certain limited use as authorized in writing by the authorized representative of the Forest Service unless this stipulation is modified or eliminated.

Willamette Meridian, \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(5)

- \_\_\_ Operations adjacent to any surface water or wet soil areas, such as streams, springs, seeps, reservoirs, or meadows, will require a buffer zone. The size will be specifically identified by the Deputy State Director for Mineral Resources, BLM and the authorized representative of the Forest Service.

(6)

- \_\_\_ On the following described lands, \_\_\_\_\_, exploration and development operations, such as drilling and associated activities, will not be allowed except from \_\_\_\_\_ to \_\_\_\_\_ unless specifically approved in writing. Routine inspection, maintenance and servicing of producing wells and facilities may be excepted.

Willamette Meridian, \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(7)

- \_\_\_ Except for water rights associated with the lease, the lessee will not remove water from any reservoir, spring, or well on the leased land without written permission.

(8)

- \_\_\_ The lessee, in accepting this lease acknowledges that all, or portions of the surface of the leased lands are privately owned. Lessee operations are subject to provisions of the \_\_\_\_\_.

- No permanent facilities such as power plants allowed on the following described land unless this stipulation is modified or eliminated. Roads, drill pads, transmission lines and pipelines are permitted.

Willamette Meridian, \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## (A)

- The lessee in accepting this lease acknowledges having read the attached Information Notices and is aware that the concerns addressed in such Notices will require special consideration by all parties at the time specific operations are proposed on the leased lands. Additional information on any of the Notices is available from the authorized representative of the Forest Service.

## (B)

- No occupancy or other surface disturbance will be allowed on the following described lands on slopes in excess of 50 percent or on designated unstable/very unstable land types without written permission from the Deputy State Director for Mineral Resources, BLM with the concurrence of the authorized representative of the Forest Service.

Willamette Meridian, \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## (C)

- If geothermal resources are discovered in commercial quantities, the geothermal lessee will not commence construction of permanent facilities until the Federal Energy Regulatory Commission has reviewed the proposed development plans and concluded that (1) they will not injure or destroy the value of the lands for, or (2) the potential value of the proposed geothermal development outweighs the potential loss of value of the lands for, water power development and associated beneficial public uses. Further, the geothermal lessee agrees that the United States and its hydroelectric power permittees and licensees shall not be responsible or held liable or incur any liability for the damage, destruction, or loss of any land, crops, facility installed or erected, income, or other property or investments resulting from the use of such lands, or portions thereof, for hydroelectric power development at any time when such hydroelectric power development is made by or under the authority of the United States. The geothermal lessee, at his own expense may make adjustments to his improvements to avoid interference with hydroelectric power development.

Willamette Meridian, \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(D)

- \_\_\_\_. The above stipulations affect the following described lands:

Willamette Meridian, \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(E)

- \_\_\_\_. In order to protect \_\_\_\_\_, the lessee shall not occupy or use the surface of the following described lands unless the lessee can demonstrate, by appropriate plan of operation to the satisfaction of the Deputy State Director for Mineral Resources, BLM and the authorized representative of the Forest Service, that this area will not be adversely affected by the proposed activities.

Willamette Meridian, \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(F)

- \_\_\_\_. The lessee is advised to read the attached Information Notices. The concerns addressed in such Notices will require special consideration by all parties at the time specific operations are proposed on the leased lands. Additional information on any of the Notices is available from the authorized representative of the Forest Service.

(G)

- \_\_\_\_. The following described lands contain important values, \_\_\_\_\_, which will likely require extensive modification to, or denial of, site specific lease activities:

Willamette Meridian, \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(H)

- No occupancy or other surface disturbance will be allowed on slopes in excess of \_\_\_\_\_ percent without written permission from the Deputy State Director for Mineral Resources, BLM with the concurrence of the authorized representative of the Forest Service.

(I)

- All operations on this lease are subject to Government approval with such site-specific stipulations as may be necessary to assure reasonable protection of or mitigation of effects on other values. A plan of operations shall not be approved if it results in unacceptable impact on other resources, land uses, and/or the environment. If for these reasons a plan of operations cannot be approved, the lease term may be suspended for up to 5 years subject to timely submittal of an appropriate application by the lessee for a suspension of operating and producing requirements of the lease and approval by the United States. If the conditions do not change sufficiently, and/or significantly improved techniques are not developed such that a plan of operations has not been approved during the suspended term of the lease, the suspension shall automatically terminate. Unless relinquished sooner, the lease will continue for the term remaining at the effective date of the suspension or, if not suspended, for the term remaining when the plan of operations was disapproved, subject to Government approval of all operations as provided herein, without recourse for compensation.

(J)

- The surface management agency has reviewed existing information and planning documents and, except as noted in attached special stipulations, knows of no reason why normal exploration, development, production and utilization cannot proceed on the leased lands. However, specific activities could not be considered prior to lease issuance since the nature and extent of the geothermal resource and the type and scale of activities were not known. The lessee should be aware that, consistent with 43 CFR 3262.4, all post-lease operations will receive appropriate environmental review and may be limited or denied, but only if unmitigatable and unacceptable impacts on other land uses or resources would result.

(K)

- "Off-road vehicle use will be permitted on the following described lands only with special authorization. This is necessary to permit operations on the lease area while protecting rare plants or other site specific values which are found in this general area."

Willamette Meridian, \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



(L)

- In order to maintain the roadless character, the Lessee agrees not to occupy or use the surface of the following described lands except for occupation or uses which will cause no significant surface disturbance, as determined by the Forest Supervisor.

Willamette Meridian, \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

This stipulation shall be in effect until implementation of the Forest Land and Resource Management Plan or until Congress makes a decision to designate the area as part of the National Wilderness Preservation System, as a wilderness study area, or as not suitable for wilderness.

The terms of this stipulation shall become inoperative in the event this area is determined as not suitable for wilderness.

(M)

- Geothermal exploration and development employing subsurface drilling is not allowed within the boundaries of Project No. \_\_\_\_\_. The Federal Energy Regulatory Commission offers no objection to other geophysical exploration techniques or to geochemical exploration techniques within the project boundary, provided the licensee for the project has no objection. If the licensee objects to the exploration, the matter should be referred to the Commission for further determination. The Commission is prepared to reconsider its position on this matter as the protective technology for geothermal drilling develops in the future.

(N)

\_\_\_\_\_  
SIGNATURE

\_\_\_\_\_  
DATE

OR  
Exhibit "B"

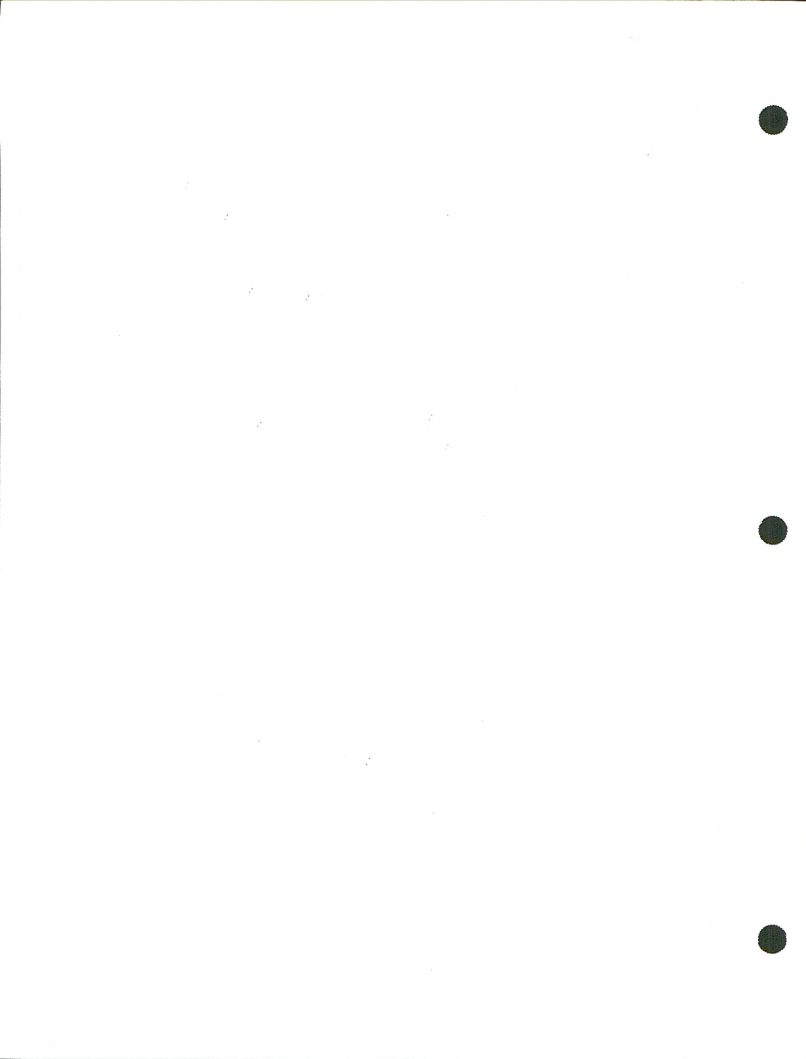
UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SPECIAL STIPULATION

The Bureau of Land Management has reviewed existing information and planning documents and except as noted in attached special stipulations, knows of no reason why normal development, subject to the controls of applicable laws and regulations, and the lease terms and conditions, cannot proceed on the leased lands. However, specific activities could not be considered prior to lease issuance since the nature and extent of the geothermal resource were not known and specific operations have not been proposed. The lessee is hereby made aware that, consistent with 43 CFR 3262.4, all post lease operations will be subject to appropriate environmental review and may be limited or denied, but only if unmitigatable and unacceptable impacts on other land uses or resources would result.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date





# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

OREGON STATE OFFICE  
P.O. Box 2965 (825 NE Multnomah Street)  
Portland, Oregon 97208

Illustration F

### NOTICE TO GEOTHERMAL LESSEE

Regulation 43 CFR 3203.5 regarding diligent exploration requires the following:

"Each geothermal lease shall include provisions requiring diligent exploration until there is a well(s) capable of commercial production on the leased lands. Diligent exploration means postlease field operations, conducted by the lessee or designated operator, on or related to the leased lands. Diligent exploration operations include, but are not limited to, geochemical surveys, heat flow measurement, core drilling or test drilling of test wells. To qualify as diligent exploration, the results and associated expenditures of operation shall be submitted to the authorized officer in accordance with applicable regulations. In addition, to qualify after the fifth year of the lease, operations shall exceed minimum per acre expenditure in accordance with the following table:

<u>Lease Year</u>	<u>Expenditure Per Acre</u>
6	\$ 4
7	6
8	8
9	10
10 -15	12

All expenditures qualifying as diligent exploration during the first 5 years of a lease, and all expenditures during any subsequent year in excess of the minimum requirement, shall be credited by the authorized officer against the requirement for successive years. However, in lieu of performing the minimum required diligent exploration in any lease year in which a minimum requirement is specified, the lessee may exercise the option of paying an additional rental of \$3 per acre or fraction thereof. Failure to either pay the additional rental or complete the minimum required diligent exploration by the end of a lease year shall subject the lease to cancellation."

Enclosed is a card showing the annual rental, additional rental and diligent explorations expenditure (DEE) for lease years six through 10. If you have any questions concerning this matter, please contact Jackie Clark at the above address or telephone (503) 231-6917.

Enclosures

OR 36588  
3210 (943.3)

Union Oil Company of California  
461 South Boylston St.  
Los Angeles, CA 90017

Lease issued: 08-01-84  
2222.40 acres @ \$1.00 p/a

PLEASE NOTE: Failure to either pay the additional rental or complete the minimum required diligent exploration by the end of a lease year shall subject the lease to cancellation.

<u>Lease Year</u>	<u>Annual Rental</u>	<u>Additional \$3.00 Rental</u>	<u>DEE Base</u>	<u>DEE Approved</u>
1988-1989				
1989-1990 6th	\$2223	+	\$6669	or \$ 8892
1990-1991 7th	\$2223	+	\$6669	or \$13338
1991-1992 8th	\$2223	+	\$6669	or \$17784
1992-1993 9th	\$2223	+	\$6669	or \$22230
1993-1994 10th	\$2223	+	\$6669	or \$26676

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

AMENDMENT TO GEOTHERMAL RESOURCES LEASE

Serial Number

Date lease issued

Amendment Number

Pursuant to the provisions of 43 CFR 3203.2(b), this amendment to the above-identified noncompetitive geothermal resources lease is issued for the following-described lands, which were originally described in item 2 of the *Application to Lease*:

containing \_\_\_\_\_ acres, more or less. Rental retained \$ \_\_\_\_\_

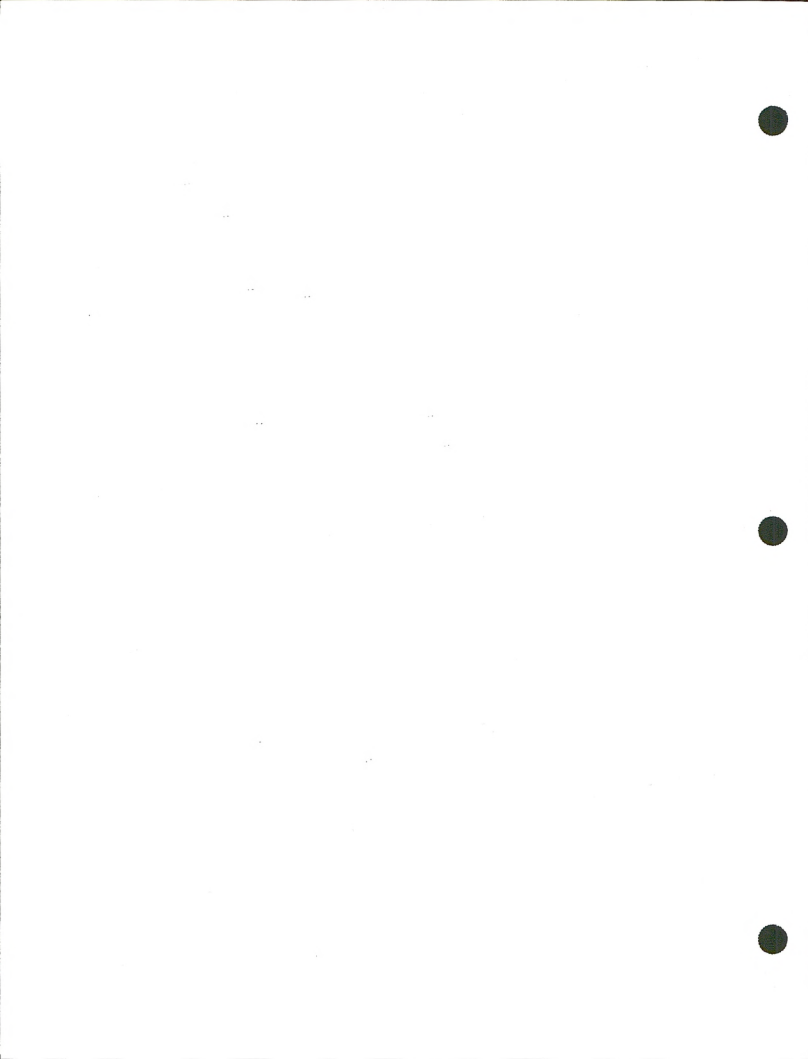
These lands, which were open to geothermal resources filing when the *Application to Lease* was filed but for valid reasons were not included in the above-identified lease (or prior amendments thereto), have become available for leasing. No withdrawal of the application to lease having been received, the terms, conditions, and provisions of the above-identified lease apply to the land herein described to the same extent as if such land had been included in the original lease when issued.

IN WITNESS WHEREOF, this amendment to the above-identified geothermal resources lease is executed and made a part hereof.

THE UNITED STATES OF AMERICA

By \_\_\_\_\_  
(Signature of Authorized Officer)

(Title)





**COMPETITIVE OIL AND GAS AND  
GEOTHERMAL RESOURCES LEASE BID**  
30 U.S.C. 181 et. seq.; 30 U.S.C. 1001-1025

FORM APPROVED  
OMB NO. 1004-0074  
Expires Feb. 29, 1988

Name of oil and gas field

Known geothermal resources area

State

Date of sale

The following bid is submitted for ☐ competitive oil and gas ☐ geothermal resources lease on the land identified below.

PARCEL NUMBER OR LAND DESCRIPTION	AMOUNT OF BID	
	TOTAL BID	DEPOSIT SUBMITTED WITH BID

1. Are you a citizen of the United States? ☐ Yes ☐ No
- 
2. If a corporation or other legal entity, specify kind \_\_\_\_\_
- 
3. Are you the sole party in interest in this lease? ☐ Yes ☐ No

☐ I CERTIFY That I am qualified to hold any lease which may be issued as a result of this sale under the Mineral Leasing Act of 1920, as amended and the regulations thereunder, including compliance with qualifications concerning Federal coal lease holdings provided in Section 2(a)(2)(A) of the Mineral Leasing Act, and that my interests, direct and indirect, in oil and gas leases in the above State will not exceed 246,080 acres, including the acreage covered by this bid, of which not more than 200,000 acres are under options. If this bid is submitted for lands in Alaska, I further certify, as above, that my holdings in each of the Alaska leasing districts do not exceed 300,000 acres of which not more than 200,000 acres are under option in each said district.

☐ I CERTIFY That I am qualified to hold any lease which may issue as a result of this sale under the Geothermal Steam Act of 1970 and the regulations thereunder and that my interest in geothermal leases in the above State does not exceed 51,200 acres.

(Signature of Bidder)

(Address of Bidder)

(Type or print name of Bidder)

(City, State, and zip code)

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on reverse)

Environ 34(8):2 (April 1987)

## INSTRUCTIONS

1. Separate bid for each parcel is required. If no parcel number has been assigned to tract, then land description or identification should be furnished.
2. Bid *must* be accompanied by one-fifth of total amount of bid. The remittance *must* be in the form specified in the *Notice of Sale Detailed Statement*.
3. Mark envelope Bid for Oil and Gas Lease in (*name of field*) or Bid for Geothermal Resources Lease in (*name of KGRA*). Be sure correct parcel number of tract on which bid is submitted and date of bid opening are noted plainly on envelope. No bid may be modified or withdrawn unless such modification or withdrawal is received prior to time fixed for opening of bids.
4. Mail or deliver bid to office and place indicated in *Notice of Sale Detailed Statement*.
5. If bidder is *not* the sole party in interest in the lease for which bid is submitted, full disclosure of interests of all other parties *must* be made as required by 43 CFR 3102.5 or 3202.2-5.

## NOTICE

The privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this bid for a Competitive Oil and Gas or Geothermal Resources Lease.

AUTHORITY: 30 U.S.C. 181 et seq.; 30 U.S.C. 1001-1025.

PRINCIPLE PURPOSE: The information is to be used to process your bid.

ROUTINE USES: (1) The adjudication of the Bidder's right to the resources for which this bid is made. (2) Documentation for public information. (3) Transfer to appropriate Federal agencies when concurrence is required prior to granting a right in public lands or resources. (4)(5) Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions.

EFFECT OF NOT PROVIDING INFORMATION: Disclosure of the information is voluntary. If all the information is not provided, your Bid may be rejected.

The Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.) requires us to inform you that:

This information is being collected in accordance with 43 CFR 3120 or 43 CFR 3220.

This information will be used to determine the bidder submitting the highest bid.

Response to this request is required to obtain a benefit.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Illustration I

FORM APPROVED  
OMB NO. 1004-0034  
Expires: August 31, 1989

TRANSFER OF OPERATING RIGHTS (SUBLEASE) IN A  
LEASE FOR OIL AND GAS OR GEOTHERMAL RESOURCES

Mineral Leasing Act of 1920 (30 U.S.C. 181 et seq.)  
Act for Acquired Lands of 1947 (30 U.S.C. 351-359)  
Geothermal Steam Act of 1970 (30 U.S.C. 1001-1025)  
Department of the Interior Appropriations Act, Fiscal Year 1981 (P.L. 96-514)

Lease Serial No.

Type or print plainly in ink and sign in ink.

PART A: TRANSFER

1. Transferee (Sublessee)

Street  
City, State  
Zip Code

Additional Transferees

This transfer is for: (Check one) ☐ Oil and Gas Lease, or ☐ Geothermal Lease

Interest conveyed: (Check one or both, as appropriate) ☐ Operating Rights (sublease) ☐ Overriding Royalty, payment out of production or other similar interests or payments

2. This transfer (sublease) conveys the following interest:

Land Description  Additional space on reverse, if needed. Do not submit documents other than this form; such documents should only be referenced herein.	Percent of Interest			Percent of Overriding Royalty or Similar Interests	
	Owned	Conveyed	Retained	Reserved	Previously reserved or conveyed
a	b	c	d	e	f
Year	Year				

PART C: GENERAL INSTRUCTIONS

1. Applicant(s) must complete Parts A1 and A2 and Part B. Both parties to transfer must sign. File three (3) manually signed, completed copies of this form in the appropriate BLM office for each transfer of operating rights (sublease). File one (1) manually signed copy of transfer of overriding royalty interest. The required filing fee (nonrefundable) must accompany the transfer, payment out of production or other similar interests or payments. File transfer within ninety (90) days after date of execution by transferor.
2. Separate form must be used for each lease being affected by this transfer and for each type of interest conveyed.
3. In item No. 2 of Part A, describe lands affected (See 43 CFR 3106, 3135, or 3241). For columns b, c, d, and e, enter the interest expressed as a percentage of total interest in the lease; e.g., if transferor transfers one quarter of a 20% interest, enter 20% in column b, 5% in column c, and 15% in column d.
4. If transfer is to more than one transferee, enter each transferee's name across columns d, e, and f next to the respective interest being conveyed.
5. If any payments out of production or similar interests, arrangements or payments have previously been created out of the interest being transferred, or if any such payments or interests are reserved under this transfer include a statement giving full details as to amount, method of payment, and other pertinent terms as provided under 43 CFR 3106, 3135, or 3241.
6. The lease account must be in good standing before this transfer (sublease) can be approved (43 CFR 3106 and 3241).
7. Transfer, if approved, takes effect on the first day of the month following date of filing in the proper BLM office. If a bond is necessary, it must be furnished prior to approval of the transfer.
8. Overriding royalty and payment out of production or other similar types of transfers must be filed with BLM, but will be accepted for record purposes only. No official approval will be given.
9. Upon approval of a transfer of operating rights (sublease), both the sublessee and lessee of record are responsible for all lease obligations.

FOR BLM USE ONLY

THE UNITED STATES OF AMERICA

This Transfer is approved solely for administrative purposes. Approval does not warrant that either party to this transfer holds legal or equitable title to this lease.

Transfer Approved Effective \_\_\_\_\_

By \_\_\_\_\_  
(Authorized Officer)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Date)

# PAPERWORK REDUCTION ACT STATEMENT

1. This information is being collected pursuant to the law.
2. This information will be used to create and maintain a record of oil and gas/geothermal lease activity.
3. Response to this request is required to obtain benefit.

## NOTICE

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this oil and gas/geothermal lease transfer application.

AUTHORITY: 30 U.S.C. 181 et seq.

PRINCIPAL PURPOSE—The information is to be used to process oil and gas/geothermal lease transfer of operating rights (sublease) application.

## ROUTINE USES:

- (1) The approval of transferee's rights to the land or resources.
- (2) Documentation for public information in support of notations made on land status records for the management, disposal, and use of public lands and resources.
- (3) Transfer to appropriate Federal agencies when concurrence is required prior to granting a right in public lands or resources.

(4)(5) Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions.

EFFECT OF NOT PROVIDING INFORMATION—If all the information is not provided, the transfer may be rejected. See regulations at 43 CFR Groups 3100 and 3200.

## PART B: CERTIFICATION AND REQUEST FOR APPROVAL

1. The transferor certifies as owner of an interest in the above designated lease that he/she hereby transfers to the above transferee(s) the rights specified above.
2. Transferee certifies as follows: (a) Transferee is a citizen of the United States; an association of such citizens; a municipality; or a corporation organized under the laws of the United States or of any State or territory thereof. For the transfer of NPR-A leases, transferee is a citizen, nation, or resident alien of the United States or associations of such citizens, nationals, resident aliens or private, public or municipal corporations. (b) Transferee is not considered a minor under the laws of the State in which the lands covered by this transfer are located. (c) Transferee's chargeable interests, direct and indirect, in either public domain or acquired lands, do not exceed 300,000 acres in oil and gas options of 246,080 in oil and gas leases in the same State, or 300,000 acres in leases and 200,000 acres in options in each leasing District in Alaska, if this is an oil and gas lease issued in accordance with the Mineral Leasing Act of 1920 or 51,200 acres in any one state if this is a geothermal lease, and (d) All parties holding an interest in the transfer are otherwise in compliance with the regulations (43 CFR Group 3100 or 3200) and the authorizing Acts.
3. Transferee's signature to this assignment constitutes acceptance of all applicable terms, conditions, stipulations and restrictions pertaining to the lease described herein. Applicable terms and conditions include, but are not limited to, an obligation to conduct all operations on the leasehold in accordance with the terms and conditions of the lease, to condition all wells for proper abandonment, to restore the leased lands upon completion of any operations as described in the lease, and to furnish and maintain such bond as may be required by the lessor pursuant to regulations 43 CFR 3104, 3134, or 3206.

For oil and gas transfers, the obligation to pay overriding royalties, payment out of production, carried interests, net profit interests, or such similar payments or interests created herein, which, when added to overriding royalties or payments out of production or other similar interests or payments previously created, may be suspended by the Secretary at any time upon a determination that the excess constitutes a burden on lease operations in accordance with 43 CFR 3103.

For geothermal transfers, an overriding royalty may not be less than one-fourth (1/4) of one percent of the value of output, nor greater than 50 percent of the rate of royalty due to the United States when this transfer is added to all previously created overriding royalties (43 CFR 3241).

I certify that the statements made herein by me are true, complete, and correct to the best of my knowledge and belief and are made in good faith.

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_  
(\_\_\_\_\_  
(Transferor's Address)  
(\_\_\_\_\_  
(City) (State) (Zip Code)

Transferor \_\_\_\_\_ (Signature)  
or  
Attorney-in-fact \_\_\_\_\_ (Signature)  
Transferee \_\_\_\_\_ (Signature)  
or  
Attorney-in-fact \_\_\_\_\_

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_

Attorney-in-fact \_\_\_\_\_

Title 18 U.S.C. Sec. 1001 makes it a crime for any person knowingly and willfully to make to any Department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Form 3000-3  
(December 1986)  
(formerly 3106-5 & 3200-17)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB NO. 1004-0034  
Expires: August 31, 1989

ASSIGNMENT OF RECORD TITLE INTEREST IN A  
LEASE FOR OIL AND GAS OR GEOTHERMAL RESOURCES

Mineral Leasing Act of 1920 (30 U.S.C. 181 et seq.)  
Act for Acquired Lands of 1947 (30 U.S.C. 351-359)  
Geothermal Steam Act of 1970 (30 U.S.C. 1001-1025)  
Department of the Interior Appropriations Act, Fiscal Year 1981 (P.L. 96-514)

Lease Serial No.

New Serial No.

Type or print plainly in ink and sign in ink.

PART A: ASSIGNMENT

1. Assignee  
Street  
City, State  
Zip Code

Additional Assignees

This record title assignment is for: (Check one) ☐ Oil and Gas Lease, or ☐ Geothermal Lease

Interest conveyed: (Check one or both, as appropriate) ☐ Record Title, ☐ Overriding Royalty, payment out of production or other similar interests or payments

2. This assignment conveys the following interest:

Land Description Additional space on reverse, if needed. Do not submit documents other than this form; such documents should only be referenced herein.	Percent of Interest			Percent of Overriding Royalty or Similar Interests	
	Owned	Conveyed	Retained	Reserved	Previously reserved or conveyed
a	b	c	d	e	f
Year	Year		Year		

PART C: GENERAL INSTRUCTIONS

- Applicant(s) must complete Parts A1 and A2 and Part B. Both parties to assignment must sign. File three (3) manually signed, completed copies of this form in the appropriate BLM office for each assignment of record title. File one (1) manually signed copy for transfer of overriding royalty interests. Payment out of production or other similar interests or payments. The required filing fee (non-refundable) must accompany the assignment. File assignment within ninety (90) days after date of execution of assignor.
- Separate form must be used for each lease being affected by this assignment and for each type of interest conveyed.
- In item No. 2 of Part A, describe lands affected (See 43 CFR 3106, 3135, or 3241). For columns b, c, d, and e, enter the interest expressed as a percentage of total interest in the lease; e.g., if assignor assigns one quarter of a 20% interest, enter 20% in column b, 5% in column c, and 15% in column d.
- If assignment is to more than one assignee, enter each assignee's name across columns d, e, and f next to the respective interest being conveyed.
- If any payment out of production or similar interests, arrangements or payments have previously been created out of the interest being assigned, or if any such payments or interests are reserved under this assignment, include a statement giving full details as to amount, method of payment, and other pertinent terms as provided under 43 CFR 3106, 3135, or 3241.
- The lease account must be in good standing before this assignment can be approved as provided under 43 CFR 3106 and 3241.
- Assignment, if approved, takes effect on the first day of the month following the date of filing in the proper BLM office. If a bond is necessary, it must be furnished prior to approval of the assignment.
- Approval of assignment of record title to 100% of a portion of the leased lands creates separate leases of the retained and the assigned portions, but does not change the terms and conditions of the lease anniversary date for purposes of payment of annual rental.
- Overriding royalty, payment out of production or other similar types of transfers must be filed with BLM, but will be accepted for record purposes only. No official approval will be given.

FOR BLM USE ONLY

UNITED STATES OF AMERICA

This assignment is approved solely for administrative purposes. Approval does not warrant that either party to this assignment holds legal or equitable title to this lease.

☐ Assignment approved for above described lands;

☐ Assignment approved for attached land description

Assignment approved effective \_\_\_\_\_

By \_\_\_\_\_

(Authorized Officer)

(Title) \_\_\_\_\_

(Date)

# PAPERWORK REDUCTION ACT STATEMENT

1. This information is being collected pursuant to the law.
2. This information will be used to create and maintain a record of oil and gas/geothermal lease activity.
3. Response to this request is required to obtain benefit.

## NOTICE

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this oil and gas/geothermal lease record title assignment application.

AUTHORITY: 30 U.S.C. 181 et seq.

PRINCIPAL PURPOSE—The information is to be used to process oil and gas/geothermal lease record title assignment applications.

## ROUTINE USES:

- (1) The adjudication of the assignee's rights to the land or resources.
- (2) Documentation for public information in support of notations made on land status records for the management, disposal, and use of public lands and resources.
- (3) Transfer to appropriate Federal agencies when concurrence is required prior to granting a right in public lands or resources.
- (4)(5) Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions.

EFFECT OF NOT PROVIDING INFORMATION—If all the information is not provided, the application may be rejected. See regulations at 43 CFR Groups 3100 and 3200.

## PART B: CERTIFICATION AND REQUEST FOR APPROVAL

1. The assignor certifies as owner of an interest in the above designated lease that he/she hereby assigns to the above assignee(s) the rights specified above.
2. Assignee certifies as follows: (a) Assignee is a citizen of the United States; an association of such citizens; a municipality; or a corporation organized under the laws of the United States or of any State or territory thereof. For the assignment of NPR-A leases, assignee is a citizen, nation, or resident alien of the United States or association of such citizen, nationals, resident aliens or private, public or municipal corporations. (b) Assignee is not considered a minor under the laws of the State in which the lands covered by this assignment are located; (c) Assignee's chargeable interests, direct and indirect, in either public domain or acquired lands, do not exceed 200 acres in oil and gas options or 246,080 in oil and gas leases in the same State, or 300,000 acres in leases and 300,000 acres in options in each leasing District in Alaska; if this is an oil and gas lease issued in accordance with the Mineral Leasing Act of 1920 or 51,200 acres in any one State if this is a geothermal lease; and (d) All parties holding an interest in the assignment are otherwise in compliance with the regulations (43 CFR Group 3100 or 3200) and the authorizing Acts.
3. Assignee's signature to this assignment constitutes acceptance of all applicable terms, conditions, stipulations and restrictions pertaining to the lease described herein.

For oil and gas assignments, the obligation to pay overriding royalties, payment out of production, carried interests, net profit interests, or such similar payments or interests created herein, which, when added to overriding royalties or payments out of production or other similar interests or payments previously created, may be suspended by the Secretary at any time upon a determination that the excess constitutes a burden on lease operations in accordance with 43 CFR 3103.

For geothermal assignments, an overriding royalty may not be less than one-fourth (1/4) of one percent of the value of output, nor greater than 50 percent of the rate of royalty due to the United States when this assignment is added to all previously created overriding royalties (43 CFR 3241).

I certify that the statements made herein by me are true, complete, and correct to the best of my knowledge and belief and are made in good faith.

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_

Assignor \_\_\_\_\_  
or \_\_\_\_\_ (Signature)  
Attorney-in-fact \_\_\_\_\_  
(Signature)

Name of assignor as shown on current lease or assignment \_\_\_\_\_

(Assignor's Address) \_\_\_\_\_ (City) \_\_\_\_\_ (State) \_\_\_\_\_ (Zip Code) \_\_\_\_\_

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_

Assignee \_\_\_\_\_  
or \_\_\_\_\_ (Signature)  
Attorney-in-fact \_\_\_\_\_  
(Signature)

Title 18 U.S.C. Sec. 1001 makes it a crime for any person knowingly and willfully to make to any Department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Serial Number

Date relinquishment filed

## DECISION

In accordance with Section 10 of the Act of December 24, 1970 (84 Stat. 1566; 30 U.S.C. 1001-1025) this lease is cancelled as to the lands described below effective as of the date of the filing of the relinquishment.

This cancellation is subject to the continued obligation of the lessee and his surety to (1) make payment of all accrued rentals and royalties, (2) place all wells on the lands relinquished in condition for suspension or abandonment, (3) restore the surface resources, and (4) comply with all other environmental stipulations. All of these obligations must be accomplished in accordance with the lease forms and applicable regulations. A partial relinquishment does not release lessee or his surety from any obligation under any outstanding bond with respect to lands not relinquished.

Lands relinquished:

\_\_\_\_\_  
(Signature of Authorized Officer)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Date)

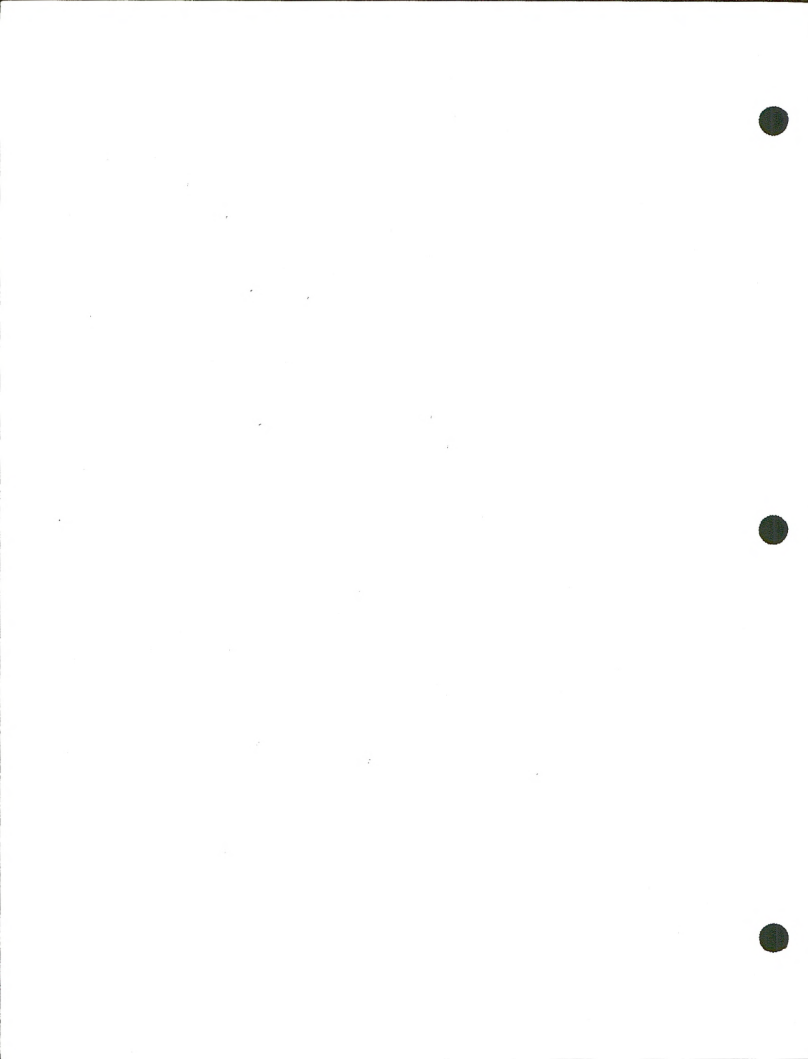




Illustration L

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

\* : Geothermal Resources  
\* : Lease Issued \*  
\* :

GEOHERMAL RESOURCES LEASE TERMINATION NOTICE

This is to inform you that your Geothermal Resources Lease OR \*, is terminated for failure to pay rental in a timely manner. The termination was effective on the anniversary date of the lease.

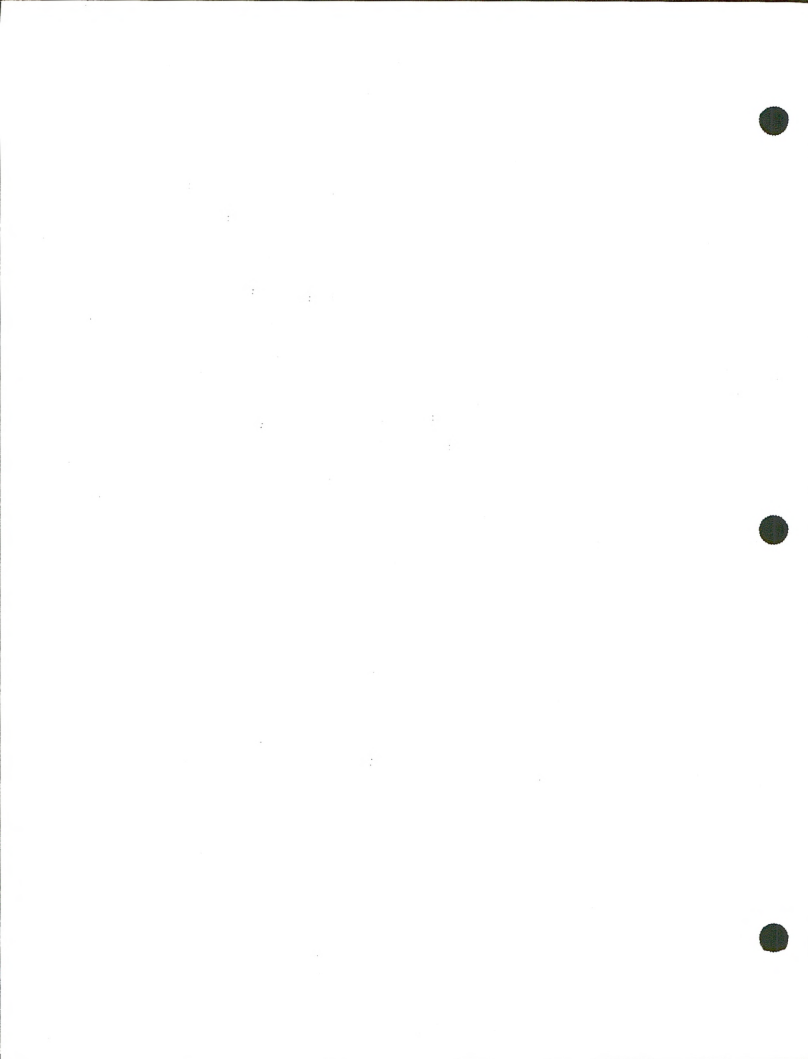
Pursuant to the provisions of Section 5(c) of Public Law 91-581 and Title 43 Code of Federal Regulations Section 3244.2-2(b) you have the right to petition for reinstatement of the lease.

The right of reinstatement is subject to the following conditions:

- a. That a new geothermal resources lease has not been issued for any of the lands.
- b. That it is shown to the satisfaction of the Authorized Officer that failure to pay was either justifiable or not due to a lack of reasonable diligence.
- c. That a petition for reinstatement, together with required rental which has accrued from date of termination of the lease, is filed with this office within fifteen (15) days after receipt of this Notice.

Chief, Lands and Minerals  
Adjudication Section

cc: 920  
940  
BLM, CA 955



October 15, 1986

## CONGRESSIONAL RECORD — HOUSE

H 10678

point for the purpose of acquisition as authorized in section 161.

(2) In addition to the sums made available under subsection 1611, there is authorized to be appropriated such sums as may be necessary to carry out the purposes of this section.

(c) The Secretary of the Interior shall transfer administrative jurisdiction over the Federal property, consisting of approximately 1 acre, known as the Broad Street site, to the Secretary of the Department in which the Coast Guard is operating, who shall transfer to the Secretary of the Interior, subject to such reservations, terms, and conditions as may be necessary for Coast Guard purposes, administrative jurisdiction over the Federal property, consisting of approximately 1 acre located near Fort Revere on Buzzards Island for purposes of a maintenance workshop, storage, and seasonal housing in connection with the administration and protection of the Fort Sumner National Monument.

SEC. 115. (1) The primary term of any geothermal lease in effect as of July 27, 1984, (arising pursuant to the Geothermal Act of 1970 (Public Law 91-581, 84 Stat. 1566, 30 U.S.C. 1001-1025)) is hereby extended to December 31, 1984, if the Secretary of the Interior finds that—

(a) a bona fide sale of the geothermal resource, from a well capable of production, for delivery to or utilization by a facility or facilities, has not been completed (1) due to administrative delays by government entities, beyond the control of the lessee, or (2) such sale would be uneconomic;

(b) substantial investment in the development of or for the benefit of the lease has been made; and

(c) the lease would otherwise expire prior to December 31, 1984.

(2)(a) The Secretary of the Interior thereafter in this section referred to as "the Secretary" shall publish for public comment in the Federal Register within 120 days after the date of enactment of this section a proposed list of significant thermal features within the following units of the National Park System:

Mount Rainier National Park;  
 Lassen Volcanic National Park;  
 Yellowstone National Park;  
 Burning Land Bridge National Preserve;  
 Gates of the Arctic National Park and Preserve;

Yukon-Charley Rivers National Preserve;

Katmai National Park;

Aniakchak National Monument and Preserve;

Wrangell-St. Elias National Park and Preserve;

Glacier Bay National Park and Preserve;

Denali National Park and Preserve;

Lake Clark National Park and Preserve;

Hot Springs National Park;

Sewage National Park;

Hawaii Volcanoes National Park;

Lake Mead National Recreation Area;

Big Bend National Park;

Olympic National Park;

Grand Teton National Park;

John D. Rockefeller, Jr. Memorial Parkway;

Haleakala National Park; and

Mount Lake National Park.

The Secretary shall include with such list the basis for his determination with respect to each thermal feature on the list. Based on public comment on such list, the Secretary is authorized to make additions to or deletions from the list. Not later than the 60th day from the date on which the proposed list was published in the Federal Register, the Secretary shall transmit the list to the Committee on Energy and Natural Resources of the Senate and the Committee on Interior and

Insular Affairs of the House of Representatives together with copies of all public comments which he has received and indicating any additions to or deletions from the list the basis for inclusion of each thermal feature on the list. The Secretary shall consider the following criteria in determining the significance of thermal features:

(1) size, extent, and uniqueness;  
 (2) scientific and geologic significance;  
 (3) the extent to which such features remain in a natural, undisturbed condition; and

(4) significance of thermal features to the authorized purposes for which the National Park System unit was created. The Secretary shall not issue any geothermal lease pursuant to the Geothermal Steam Act of 1970 (Public Law 91-581, 84 Stat. 1566), as amended, until such time as the Secretary has transmitted the list to the Committees.

(b) The Secretary shall maintain a monitoring program for those significant thermal features listed pursuant to subsection (a) of this section.

(c) Upon receipt of an application for a geothermal lease the Secretary shall determine on the basis of scientific evidence if exploration, development, or utilization of the lands subject to the geothermal lease application is reasonably likely to result in a significant adverse effect on a significant thermal feature listed pursuant to subsection (a) of this section. Such determination shall be subject to notice and public comment. If the Secretary determines on the basis of scientific evidence that the exploration, development, or utilization of the lands subject to the geothermal lease application is reasonably likely to result in a significant adverse effect on a significant thermal feature listed pursuant to subsection (a) of this section, the Secretary shall not issue such geothermal lease. In addition, the Secretary shall withdraw from leasing under the Geothermal Steam Act of 1970, as amended, any lands or portion thereof, subject to the application for geothermal lease, the exploration, development, or utilization of which is reasonably likely to result, based on the Secretary's determination, in a significant adverse effect on a significant thermal feature listed pursuant to subsection (a) of this section.

(d) With respect to all geothermal leases issued after the date of enactment of this section the Secretary shall include stipulations in leases necessary to protect significant thermal features listed pursuant to subsection (a) of this section whose determination is based on scientific evidence that the exploration, development, or utilization of the lands subject to the lease is reasonably likely to adversely affect such significant features. Such stipulations shall include, but are not limited to, the following:

(1) requiring the lessee to reject geothermal fluids into the rock formations from which they originate;

(2) requiring the lessee to report annually to the Secretary on its activities;

(3) requiring the lessee to continuously monitor geothermal production and injection wells; and

(4) requiring the lessee to suspend activity, temporarily or permanently, on the lease if the Secretary determines that ongoing exploration, development, or utilization activities are having a significant adverse effect on significant thermal features listed pursuant to subsection (a) of this section until such time as the significant adverse effect is eliminated.

(e) The Secretary of Agriculture shall consider the effects on significant thermal features of those units of the National Park

System identified in subsection (a) of this section in determining whether to consent to leasing under the Geothermal Steam Act of 1970, as amended, on national forest or other lands administered by the Department of Agriculture available for leasing under the Geothermal Steam Act of 1970, as amended, including public, withdrawn, and acquired lands.

(f) Nothing contained in this section shall affect the ban on leasing under the Geothermal Steam Act of 1970, as amended, with respect to the Island Park Known Geothermal Resources Area, as provided for in Public Law 96-473 (98 Stat. 1839) and Public Law 99-190 (98 Stat. 1267).

(g) Except as provided herein, nothing contained in this section shall affect or modify the authorities or responsibilities of the Secretary under the Geothermal Steam Act of 1970, as amended, or any other provision of law.

(h) The provisions of this section shall remain in effect until Congress determines otherwise.

SEC. 116. (a) Section 1102(a) of the National Parks and Recreation Act of 1970 (Public Law 91-425) is amended by inserting the following after the second sentence: "In addition, the Secretary may acquire by any of the foregoing methods not to exceed ten acres outside the boundaries of the national river for an administrative headquarters site, and funds appropriated for land acquisition shall be available for the acquisition of the administrative headquarters site."

(b) Section 1112 of Public Law 95-625 is amended by striking "\$500,000" and inserting "\$3,000,000".

SEC. 117. (1) The Women in Military Service for America Memorial Foundation is authorized to establish a memorial on Federal land in the District of Columbia and its environs to honor women who have served in the Armed Forces of the United States. Such memorial shall be established in accordance with the provisions of H.R. 4378, as approved by the Senate on September 10, 1986 (S. Rpt. 99-421).

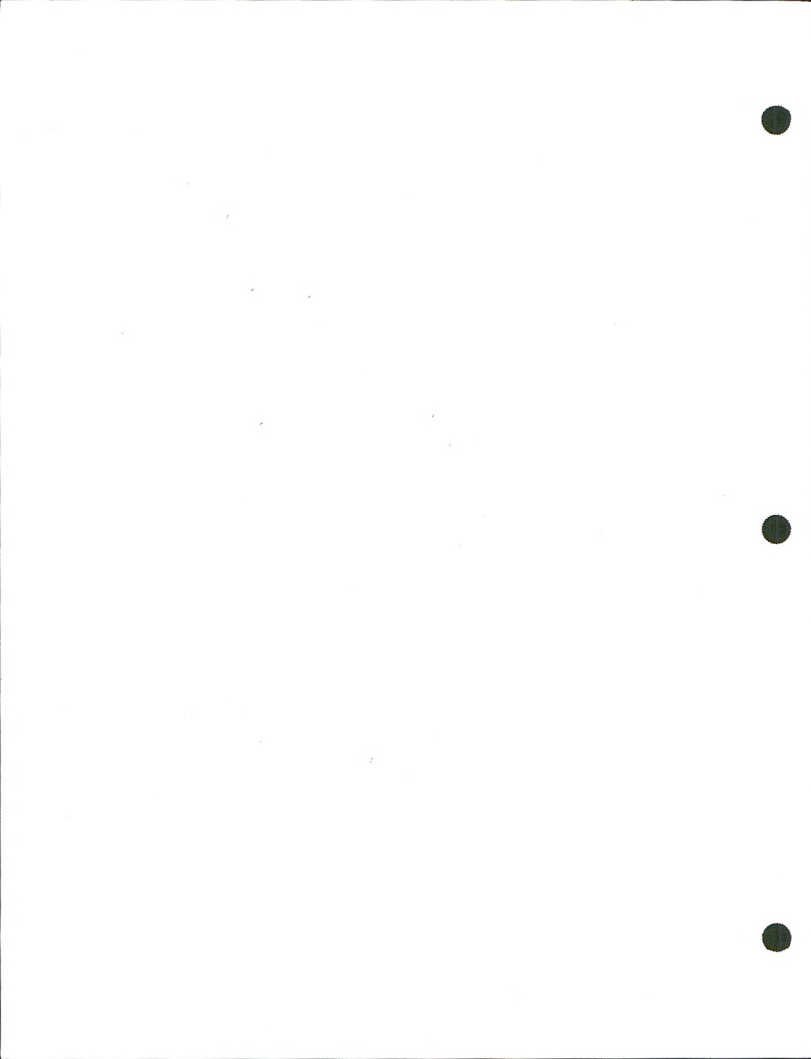
(2) The creation of organizations approved by the Secretary shall establish the memorial with non-Federal funds.

SEC. 118. (1) The Black Revolutionary War Patriots Foundation is authorized to establish a memorial on Federal land in the District of Columbia and its environs to honor the citizenship of one thousand courageous slaves and free black persons who served as soldiers and sailors for provided citizen assistance during the American Revolution and to honor the countless black men, women, and children who ran away from slavery or fled petitions for their freedom. Such memorial shall be established in accordance with the provisions of H.R. 4378, as approved by the House of Representatives on September 29, 1986.

(2) The Black Revolutionary War Patriots Foundation shall establish the memorial with non-Federal funds.

SEC. 119. The Secretary of the Interior shall designate the visitor center to be associated with the headquarters of the Illinois and Michigan Canal National Heritage Corridor as the "George M. O'Brien Visitor Center in recognition of Representative George M. O'Brien's contribution to the creation and establishment of this national heritage corridor."

SEC. 120. notwithstanding any other provisions of the Land and Water Conservation Fund Act of 1965, Public Law 89-667, as amended, or other law which grants, conserves, or furthest assisted land in Berks County, Illinois, assisted under project No. 17





## United States Department of the Interior

3210 (943)

## BUREAU OF LAND MANAGEMENT

OREGON STATE OFFICE  
P.O. Box 2965 (825 NE Multnomah Street)  
Portland, Oregon 97208

February 1, 1988

LANDS AVAILABLE FOR GEOTHERMAL LEASE OFFERS

In accordance with 43 CFR 3210.1(b), the following described lands, included in cancelled, relinquished, terminated or expired noncompetitive geothermal leases, will become available for geothermal lease offers on March 1, 1988. Any offers received prior to March 1, 1988, will be considered filed on March 1, 1988.

Willamette Meridian, Oregon

## T. 21 S., R. 7 E.,

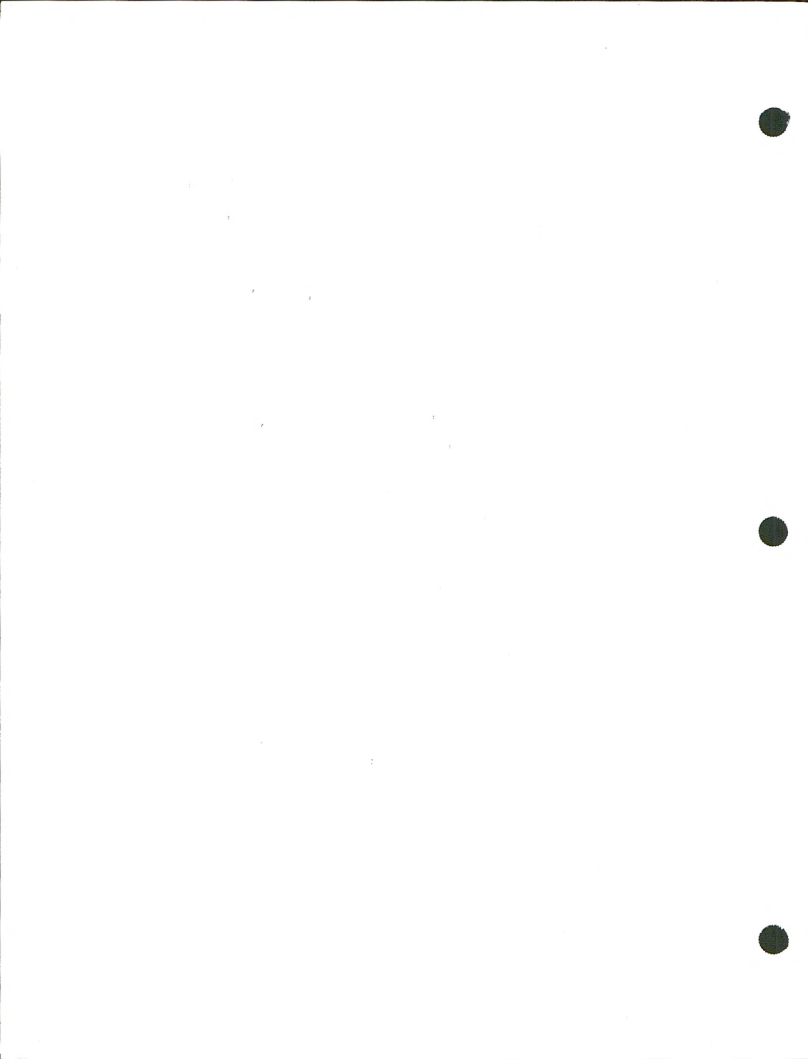
Sec. 9, all;  
Sec. 10, all;  
Sec. 12, all;  
Sec. 13, all;  
Sec. 14, all;  
Sec. 15, all;  
Sec. 16, all;  
Sec. 23, all;  
Sec. 24, all;  
Sec. 26, all;  
Sec. 35, all;  
Sec. 36, all.  
(7,680.00 acres)

## T. 22 S., R. 7 E.,

Sec. 1, lots 1, 2, 3, 4, S $\frac{1}{2}$ N $\frac{1}{2}$ , S $\frac{1}{2}$  (all);  
Sec. 2, lots 1, 2, 3, 4, S $\frac{1}{2}$ N $\frac{1}{2}$ , S $\frac{1}{2}$  (all);  
Sec. 10, all;  
Sec. 11, all;  
Sec. 12, all.  
(3,196.96 acres)

## T. 21 S., R. 8 E.,

Sec. 17, all;  
Sec. 18, lots 1, 2, 3, 4, E $\frac{1}{2}$ , E $\frac{1}{2}$ W $\frac{1}{2}$  (all);  
Sec. 19, lots 1, 2, 3, 4, E $\frac{1}{2}$ , E $\frac{1}{2}$ W $\frac{1}{2}$  (all);  
Sec. 29, all;  
Sec. 30, lots 1, 2, 3, 4, N $\frac{1}{2}$ NE $\frac{1}{4}$ , N $\frac{1}{2}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ ,  
N $\frac{1}{2}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ , N $\frac{1}{2}$ S $\frac{1}{2}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ ,  
S $\frac{1}{2}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ , SE $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ , SE $\frac{1}{4}$ NE $\frac{1}{4}$ ,  
NE $\frac{1}{4}$ NW $\frac{1}{4}$ , N $\frac{1}{2}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ , N $\frac{1}{2}$ S $\frac{1}{2}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ ,  
N $\frac{1}{2}$ S $\frac{1}{2}$ S $\frac{1}{2}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ , S $\frac{1}{2}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ ,  
W $\frac{1}{2}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ , SW $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ , W $\frac{1}{2}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ ,  
SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ , E $\frac{1}{2}$ SE $\frac{1}{4}$ , E $\frac{1}{2}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ , E $\frac{1}{2}$ W $\frac{1}{2}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ ,  
E $\frac{1}{2}$ E $\frac{1}{2}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ .  
(3,154.32 acres)



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB NO. 1004-0074  
Expires: April 30, 1985

Notice Number

NOTICE OF INTENT TO CONDUCT GEOTHERMAL RESOURCE  
EXPLORATION OPERATIONS

Applicant(s)	Address (include zip code)
Operator (name and telephone number) include area code	Address (include zip code)
Contractor(s)	Address (include zip code)

hereby apply for authorization to conduct exploration operations pursuant to the provisions of 43 CFR 3209 now or hereafter in force across and upon the following-described lands (give description of lands by township, attach map or maps showing lands to be entered or affected)

Type of operations to be conducted (give brief description)

Exploration operations will be conducted during the period (date) from \_\_\_\_\_ to \_\_\_\_\_

Attached ☐ \$ \_\_\_\_\_ Surety bond ☐ Rider to Nationwide bond ☐ Rider to Statewide bond ☐ Bond to be furnished

Upon completion of exploration operations the undersigned agrees to notify the Authorized Officer that authorized exploration operations have been completed in conformance with the general and special terms and stipulations of the notice.

The undersigned hereby agrees (1) that he will not enter upon the described land until he has been informed in writing whether there are special stipulations applicable to his Notice of Intent, as to either time or method of operation or otherwise, and, if there are such stipulations, what those stipulations are, (2) that he will comply with those special stipulations, if any; and (3) that he will not enter upon the described lands until his entry has been approved by the Authorized Officer.

The undersigned agrees to be bound by the terms and conditions of this notice to conduct exploration operations when approved by the Authorized Officer.

The undersigned agrees that the filing of this Notice under the regulations (43 CFR Subpart 3209) does not vest or confer any preference right to a geothermal resources lease.

The undersigned agrees further that all exploration operations shall be conducted pursuant to the following terms and conditions:

- Exploration operations shall be conducted in compliance with all Federal, State, and local laws, ordinances, or regulations which are applicable to the area of operations including, but not limited to, those pertaining to fire, sanitation, conservation, water pollution, fish, and game. All operations hereunder shall be conducted in a prudent manner.
- Due care shall be exercised in protecting the described lands from damage. All necessary precautions shall be taken to avoid any damage other than normal wear and tear to improvements on the land including, but not limited to, gates, bridges, roads, culverts, cattle guards, fences, dams, dikes, vegetative cover, improvements, stock watering, and other facilities.
- All drill holes shall be capped when not in use and appropriate procedures shall be taken to protect against

hazards in order to protect the lives, safety, or property of other persons or of wildlife and livestock.

- All vehicles shall be operated at a reasonable rate of speed and, in the operation of vehicles, due care shall be taken to safeguard livestock and wildlife in the vicinity of operations. Existing roads and trails shall be used wherever possible. If new roads and trails are to be constructed, the Authorized Officer must be consulted prior to construction as to location and specifications. Reclamation and/or reseeding of new roads and trails shall be made as requested by the Authorized Officer.
- Upon expiration, conclusion, or abandonment of operations conducted pursuant to this Notice, all equipment shall be removed from the land, and the land shall be restored as nearly as practicable to its original condition by such measures as the Authorized Officer may specify. All geophysical holes shall be safely plugged. The Authorized Officer shall be furnished a Notice of Completion of Geothermal Resource Exploration Operations (Form 3200-10) immediately upon cessation of all such operations and shall be further informed of the completion of reclamation work as soon as possible.
- Location and depth of water sands encountered shall be disclosed to the Authorized Officer.

(Continued on reverse)

Form 3200-9 (August 1982)

AUTHORITY: 30 U.S.C. 1001-1025.

PRINCIPAL PURPOSE: The information is to be used to process your request for authorization to conduct exploration operations.

ROUTINE USES: (1) The adjudication of the request for authorization to conduct exploration operations. (2) Documentation for public information. (3) Transfer to appropriate Federal agencies when concurrence is required prior to granting a right in National Resource lands or resources. (4)(5) Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions.

EFFECT OF NOT PROVIDING INFORMATION: Disclosure of the information is voluntary. If all the information is not provided, your request for authorization may be denied.

- |   |  |
|---|--|
| 7. Operator shall contact the Authorized Officer prior to actual entry upon the land in order to be apprised of practices which shall be followed or avoided in the conduct of exploration operations pursuant to the terms of this Notice and applicable regulations. Operator will conduct no operations on the land unless the attached bond is in good standing.  | to report, as soon as possible, to the Authorized Officer location and size of fire, and assistance needed to suppress such fires. Operator shall inform the Authorized Officer as soon as possible of all fires, regardless of location, noted, or suppressed by independent action.  |
| 8. Due care shall be exercised to avoid scarring or removal of ground vegetative cover.   | 15. No work shall be done within one-half mile of a developed recreation site without specific written authority from the Authorized Officer. Any travel within one-half mile of a recreation site shall be over existing roads or trails.   |
| 9. All operations shall be conducted in such a manner to avoid (a) blockage of any drainage systems; (b) changing the character, or causing the pollution or siltation of rivers, streams, lakes, ponds, wetlands, seeps, and marshes; and (c) damaging fish and wildlife resources or habitat. Cuts or fills causing any of the above-mentioned problems will be repaired immediately in accordance with specifications of the Authorized Officer. | 16. Use of explosives within one-half mile of designated waters is prohibited unless approved, in writing, by the Authorized Officer.  |
| 10. Vegetation shall not be disturbed within 300 feet of waters designated by the Authorized Officer, except at approved stream crossings.  | 17. If operations conducted under the provisions of this Notice causes any damage to the surface of the national resource lands, such as, but not limited to, soil erosion, pollution of water, injury or destruction of livestock or wildlife, or littering, operator shall, within 48 hours, file with the Authorized Officer a map showing exact location of such damage and a written report containing operator's plans for correcting or minimizing damage, if possible. |
| 11. Surface damage which induces soil movement and/or water pollution shall be subject to corrective action as required by the Authorized Officer.  | 18. Violation of, or failure to comply with any of these terms and conditions shall result in immediate shutdown of field operations until deficiency is corrected. Failure to correct deficiency within the time period allowed by the Authorized Officer shall result in forfeiture of bond.   |
| 12. Trails and campsites shall be kept clean. All garbage and foreign debris shall be eliminated as required by the Authorized Officer.   | 19. The Bureau of Land Management reserves the right to close any area to operators in periods of fire danger or when irreparable damage to natural resources is imminent.   |
| 13. Operator shall protect all survey monuments, witness corners, reference monuments, and bearing trees against destruction, obliteration, or damage. He shall, at his expense reestablish, damaged, destroyed, or obliterated monuments and corners, using a licensed surveyor, in accordance with Federal survey procedures. A record of the reestablishment shall be submitted to the Authorized Officer.                                       | 20. Contractor shall be liable for assuring compliance with all terms and conditions of this Notice and all actions of his designated operator, agents, and employees.   |
| 14. Operator shall make every reasonable effort to prevent, control, or suppress any fires started by the operator, and   | 21. Where continuation of the operation will result in irreparable damage to the land and other natural resources this Notice will be immediately cancelled by the Authorized Officer.   |
| 22. Special Stipulations:   |  |

(Signature of Applicant) (Date) (Signature of Operator) (Date)

We hereby agree to the special stipulations added and made a part of this Notice to conduct exploration operations.

(Signature of Holder of Notice) (Date) (Signature of Operator) (Date)

I hereby approve this Notice to conduct exploration operations.

(Signature of Authorized Officer) (Title) (Date)



Form 3000-4  
(June 1987)  
Formerly  
104-1, 3104-2, 3104-8,  
106-4, 3200-12,  
3200-13, 3200-16)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**OIL AND GAS OR GEOTHERMAL LEASE BOND**

Act of February 25, 1920 (30 U.S.C. 181 et seq.)  
Act of August 7, 1947 (30 U.S.C. 351-359)  
Department of the Interior Appropriations Act, FY 1981 (94 Stat. 2959)  
Act of December 24, 1970 (30 U.S.C. 1001-1025)  
Other Oil and Gas and Geothermal Leasing Authorities as Applicable

Bond Number \_\_\_\_\_

Lease Serial Number (For Individual Bond Only) \_\_\_\_\_

CHECK ONE: ☐ OIL AND GAS ☐ GEOTHERMAL RESOURCES

CHECK ONE:  
☐ SURETY BOND

KNOW ALL BY THESE PRESENTS, THAT \_\_\_\_\_

(name)

of \_\_\_\_\_  
(address)

as principal, and \_\_\_\_\_  
(name)

of \_\_\_\_\_, as surety,  
(address)

are held and firmly bound unto the United States of America in the sum of \_\_\_\_\_  
dollars (\$ \_\_\_\_\_).

lawful money of the United States, which may be increased or decreased by a rider hereto executed in the same manner as this bond.

☐ PERSONAL BOND  
THE FORM OF (CHECK ONE) ☐ CASH or ☐ NEGOTIABLE SECURITIES

KNOW ALL BY THESE PRESENTS, That \_\_\_\_\_

(name)

of \_\_\_\_\_, as obligor, is held and firmly  
(address)

bound unto the United States of America in the sum of \_\_\_\_\_  
dollars (\$ \_\_\_\_\_), lawful money of the United States which may be  
increased or decreased by a rider hereto executed in the same manner as this bond.

The obligor, in order to more fully secure the United States in the payment of the aforesaid sum, hereby pledges as security (therefore United States negotiable securities or cash, of a par value equal to the amount specified).

The obligor, pursuant to the authority conferred by Section 1 of the Act of September 13, 1982 (31 U.S.C. 9303), does hereby constitute and appoint the Secretary of the Interior to act as his attorney. The interest accruing on the United States securities deposited, in the absence of any default in the performance of any of the conditions, or stipulations set forth in this bond and the instrument(s) granting rights and interests in Federal lands, must be paid to the obligor. The obligor hereby for himself/herself, any heirs, executors, administrators, successors, and assigns, joint and severally, ratifies and confirms whatever the Secretary shall do by virtue of these presents.

The principal surety shall apply this bond or the Secretary shall transfer this deposit as security for the faithful performance of any and all of the conditions and stipulations as set forth in this bond and the instrument(s) granting rights and interests in Federal lands. In the case of any default in the performance of the conditions and stipulations of such undertaking, it is agreed that (1) for a Surety Bond, the surety/principal shall apply the bond or any portion thereof, (2) for a Personal Bond, the Secretary shall have full power to assign, appropriate, apply or transfer the deposit or any portion thereof, to the satisfaction of any damages, assessments, late payment charges, penalties, or deficiencies arising by reason of such default.

This bond is required for the use and benefit of (1) the United States, (2) the owner of any of the land subject to the coverage of this bond, who has a statutory right to compensation in connection with a reservation of the oil and gas and geothermal deposits to the United States, (3) any lessee, permittee, or contractor, under a lease, permit, or resource sale contract issued, or to be issued, by the United States covering the same land subject to this bond, covering the use of the surface or the prospecting for, or the development of other mineral deposits in any portion of such land, to be paid to the United States. For such payment, well and truly to be made, we bind ourselves and each of our heirs, executors, administrators, successors, and assigns, jointly and severally.

**CHECK ONE**

☐ **NATIONWIDE BOND** — This bond shall cover all operations conducted on Federal land by or on behalf of the principal/obligor in the United States except the National Petroleum Reserve in Alaska (NPR-A) and provided a rider is obtained, coverage of multiple exploration operations.

☐ **STATEWIDE BOND** — This bond shall cover all operations conducted on Federal land by or on behalf of the principal/obligor except the NPR-A and, provided a rider is obtained, also shall cover multiple explorations within the single State of \_\_\_\_\_.

☐ **INDIVIDUAL BOND** — This bond shall cover all operations conducted by or on behalf of the principal/obligor on the single lease identified by serial number above.

☐ **NATIONAL PETROLEUM RESERVE IN ALASKA (NPR-A) BOND** — This bond shall cover

☐ **NPR A LEASE BOND** — The terms and conditions of a single lease

☐ **NPR A WIDE BOND** — The terms and conditions of all leases, and provided a rider is obtained, coverage of multiple exploration operations.

(Continued on reverse)

# BOND CONDITIONS

The conditions of the foregoing obligations are such that:

WHEREAS the obligor/principal has an interest in a lease(s) and/or responsibility for operations on a lease(s) issued under the Acts cited in this bond; and

WHEREAS the obligor/principal and surety agree(s) that without notice to the obligor/surety the coverage of this bond, in addition to the present holding(s) of and/or authorization(s) granted to the obligor/principal, shall extend to and include:

1. Any lease(s) hereafter issued to or acquired by the obligor/principal except under individual lease bonds, the coverage is to be confined to the obligor's/principal's holding(s) and/or authorization(s) granted under the Acts cited in this bond, and to become effective immediately upon such authorization, approval or issuance of a transfer in favor of the obligor/principal; and

2. Any transfer(s) of operating rights or operating agreement(s) hereafter entered into or acquired by the obligor/principal affecting lease(s); and

3. Any designation subsequent hereto of the obligor/principal as operator of a lessee under a lease(s) issued pursuant to the Acts cited in this bond; and

Provided, That the surety may elect to terminate the additional coverage authorized under this paragraph. Such termination will become effective 30 days after the BLM receives notice of the election to terminate. After the termination becomes effective, the additional interest(s) identified in this paragraph will not be covered by this bond; and

WHEREAS the obligor/surety hereby waives any right to notice of, and agrees that this bond shall remain in full force and effect notwithstanding:

1. Any assignment(s) of an undivided interest in any part or all of the lands in the lease(s), in which event the assignee(s) shall be considered to be coprincipal(s) on this bond as fully and to the same extent as though his/her or their duly authenticated signatures appeared thereon; and

2. Any assignment(s) of 100% of some of the lands described in the lease(s), the bond to remain in full force and effect only as to the lands retained in the lease(s); and

3. Any transfer(s) either in whole or in part, of any or all of the operating rights/agreements and further agrees to remain bound under this bond as to the interests in the operating rights/agreements retained by the principal; and

4. Any modification of a lease or operating right/agreement, or obligation thereunder, whether made or effected by commitment of lease or operating right/agreement to unit, cooperative, communitization or storage agreements, or development contracts, suspensions of operations or production, waivers, suspensions or changes in rental, minimum royalty and royalties, compensatory royalty payments, or otherwise; and

5. Any extension of a lease(s) covered by this bond, such coverage to continue without any interruption due to the expiration of the term set forth in the lease(s);

WHEREAS the obligor/principal and surety hereby agree(s) that notwithstanding the termination of any lease(s), operating right(s)/agreements or designations as operator by this bond, whether the termination is by operation of law or otherwise, the bond shall remain in full force and effect as to the terms and conditions of all remaining leases, obligations, operating agreements, or designations covered by the bond; and

WHEREAS the obligor/principal, as to any lease or part of a lease for lands to which he/she has been designated as operator, or approved as operator, in consideration of being permitted to furnish this bond in lieu of the lessees, agrees and by these presents does hereby bind himself/herself to fulfill on behalf of each lessee all obligations of such for the entire leasehold in the same manner and to the same extent as though he/she were the lessee; and

WHEREAS the obligor/principal and surety agree(s) that the neglect or forbearance of said lessor in enforcing, as against the lessees of such lessor, the payment of rentals or royalties or the performance of any other term, condition or agreement of the lease(s) shall not, in any way, release the obligor/principal and surety, or either of them from any liability under this bond; and

WHEREAS the obligor/principal and surety agree(s) that in the event of any default under the lease(s) the lessor may commence and prosecute any claim, suit, or other proceeding against the obligor/principal and surety or either of them, without the necessity of joining the lessee(s); and

WHEREAS if the obligor/principal fails to comply with any provisions of an oil and gas lease, and the noncompliance continues for thirty (30) days after written notice thereof, such lease shall be subject to cancellation and the obligor/principal shall also be subject to applicable provisions and penalties of the Federal Oil and Gas Royalty Management Act (30 U.S.C. 1701 et seq.). This provision shall not be construed to prevent the exercise by the United States of any other legal and equitable remedy, including waiver of the default.

NOW, THEREFORE If said obligor/principal, his/her heirs, executors, administrators, successors, or assigns shall in all respects faithfully comply with all of the provisions of the instrument(s) granting rights and interests in Federal lands referred to above, then the obligations are to be void; otherwise to remain in full force and effect.

4 Signed this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, in the presence of:

## NAMES AND ADDRESSES OF WITNESSES

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
(Principal/Obligor) (L.S.)  
\_\_\_\_\_  
(Business Address)  
\_\_\_\_\_  
(Surety) (L.S.)  
\_\_\_\_\_  
(Business Address)

If this bond is executed by a corporation, it must bear the seal of that corporation

Form 3000-4a  
(June 1987)  
Formerly 3045-3 &  
3200-11)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Bond Number

## OIL AND GAS OR GEOTHERMAL EXPLORATION BOND

Act of February 25, 1920 (30 U.S.C. 181 et seq.)  
Act of August 7, 1947 (30 U.S.C. 351-359)  
Department of the Interior Appropriations Act, FY 1981 (94 Stat. 2959)  
Act of December 24, 1970 (30 U.S.C. 1001-1025)  
Other Oil and Gas and Geothermal Leasing Authorities as Applicable

CHECK ONE: ☐ OIL AND GAS EXPLORATION ☐ GEOTHERMAL RESOURCES EXPLORATION

CHECK ONE:

☐ SURETY BOND

KNOW ALL BY THESE PRESENTS, THAT \_\_\_\_\_

(name)

of \_\_\_\_\_  
(address)as principal, and \_\_\_\_\_  
(name)of \_\_\_\_\_, as surety,  
(address)

are held and firmly bound unto the United States of America in the sum of \_\_\_\_\_  
dollars (\$ \_\_\_\_\_),

lawful money of the United States, which may be increased or decreased by a rider hereto executed in the same manner as this bond.

## PERSONAL BOND

IN THE FORM OF (CHECK ONE)

☐ CASH or☐ NEGOTIABLE SECURITIES

KNOW ALL BY THESE PRESENTS, That \_\_\_\_\_

(name)

of \_\_\_\_\_, as obligor, is held and firmly  
(address)

bound unto the United States of America in the sum of \_\_\_\_\_  
dollars (\$ \_\_\_\_\_), lawful money of the United States which sum may be

increased or decreased by a rider hereto executed in the same manner as this bond.

The obligor, in order to more fully secure the United States in the payment of the aforesaid sum, hereby pledges as security therefore United States negotiable securities or cash, of a par value equal to the amount specified.

The obligor, pursuant to the authority conferred by Section 1 of the Act of September 13, 1982 (31 U.S.C. 9303), does hereby constitute and appoint the Secretary of the Interior to act as his attorney. The interest accruing on the United States securities deposited, in the absence of any default in the performance of any of the conditions, or stipulations set forth in this bond and the instrument(s) authorizing exploration activities on Federal lands, must be paid to the obligor. The obligor hereby for himself/ herself, any heirs, executors, administrators, successors, and assigns, joint and severally, ratifies and confirms whatever the Secretary shall do by virtue of these presents.

The principal/surety shall apply this bond or the Secretary shall transfer this deposit as security for the faithful performance of any and all of the conditions as set forth in this bond and the instruments authorizing exploration activities on Federal lands. In the case of any default in the performance of the conditions and stipulations of such undertaking, it is agreed that: (1) for a Surety Bond, the surety/principal shall apply the bond or any portion thereof; (2) for a Personal Bond, the Secretary shall have full power to assign, appropriate, apply or transfer the deposit or any portion thereof, to the satisfaction of any damages, assessments, late payment charges, penalties, or deficiencies arising by reason of such default.

This bond is required for the use and benefit of (1) the United States, (2) the owner of any of the land subject to the coverage of this bond, upon which exploration operations will be conducted, who has a statutory right to compensation in connection with a reservation of the oil and gas and geothermal deposits in the United States; and (3) any lessee, permittee, or contractor, under a lease, permit, or resource sale contract issued, or to be issued, by the United States covering the same land subject to this bond, on which geophysical exploration operations will be conducted, to be paid to the United States. For such payment, well and truly to be made, we bind ourselves and each of our heirs, executors, administrators, successors, and assigns, jointly and severally.

CHECK ONE:

☐ This bond shall cover all exploration operations conducted by or on behalf of the principal/obligor on Federal surface administered by the Bureau of Land Management (BLM) in the United States, including the National Petroleum Reserve in Alaska (NPR-A).

☐ This bond shall cover all exploration operations conducted by or on behalf of the principal/obligor on Federal surface administered by BLM within the single State of \_\_\_\_\_

☐ This bond shall cover a single exploration operation conducted by or on behalf of the principal/obligor on Federal surface administered by BLM as set forth on reverse

LEGAL LAND DESCRIPTION.

BOND CONDITIONS

The conditions of the foregoing obligations are such that:

WHEREAS the principal/obligor has a responsibility for an exploration operation(s) to be conducted on Federal surface and administered by BLM.

WHEREAS the principal/obligor has filed a Notice of Intent to Conduct Exploration Operations or a geophysical exploration permit with the authorized officer wherein the operations are to be conducted and

WHEREAS the principal/obligor is obligated to comply with the terms and conditions set forth in such Notice of Intent or geophysical exploration permit.

WHEREAS the principal/obligor and surety hereby agree that notwithstanding the termination of any exploration operation(s) covered by this bond, the bond shall remain in full force and effect as to the terms and conditions of all remaining exploration operations conducted on Federal surface administered by BLM.

NOW, THEREFORE If said principal/obligor shall in all respects faithfully comply with all of the terms and conditions of the Notice of Intent or geophysical exploration permit and such other corrective measures to rehabilitate the land as may be required by the Authorized Officer, the surety shall incur no liability but, if the principal should fail to do so, the surety shall be liable to the extent provided in this bond.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, in the presence of:

NAMES AND ADDRESSES OF WITNESSES

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(Principal)

(Business Address)

(Surety)

(Business Address)

If this bond is executed by a corporation, it must bear the seal of that corporation.

Form 3160-8  
(November 1983)  
(Formerly 9-1123)

(Submit in triplicate to appropriate  
BLM District Office)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

DESIGNATION OF OPERATOR

The undersigned is, on the records of the Bureau of Land Management, holder of lease

STATE OFFICE:

SERIAL NO.:

and hereby designates

NAME:

ADDRESS:

as his operator and local agent, with full authority to act in his behalf in complying with the terms of the lease and regulations applicable thereto and on whom the authorized officer may serve written or oral instructions in securing compliance with the Operating Regulations (43 CFR 3260) with respect to (describe acreage to which this designation is applicable):

It is understood that this designation of operator does not relieve the lessee of responsibility for compliance with the terms of the lease and the Operating Regulations. It is also understood that this designation of operator does not constitute an assignment of any interest in the lease.

In case of default on the part of the designated operator, the lessee will make full and prompt compliance with all regulations, lease terms, or orders of the Secretary of the Interior or his representative.

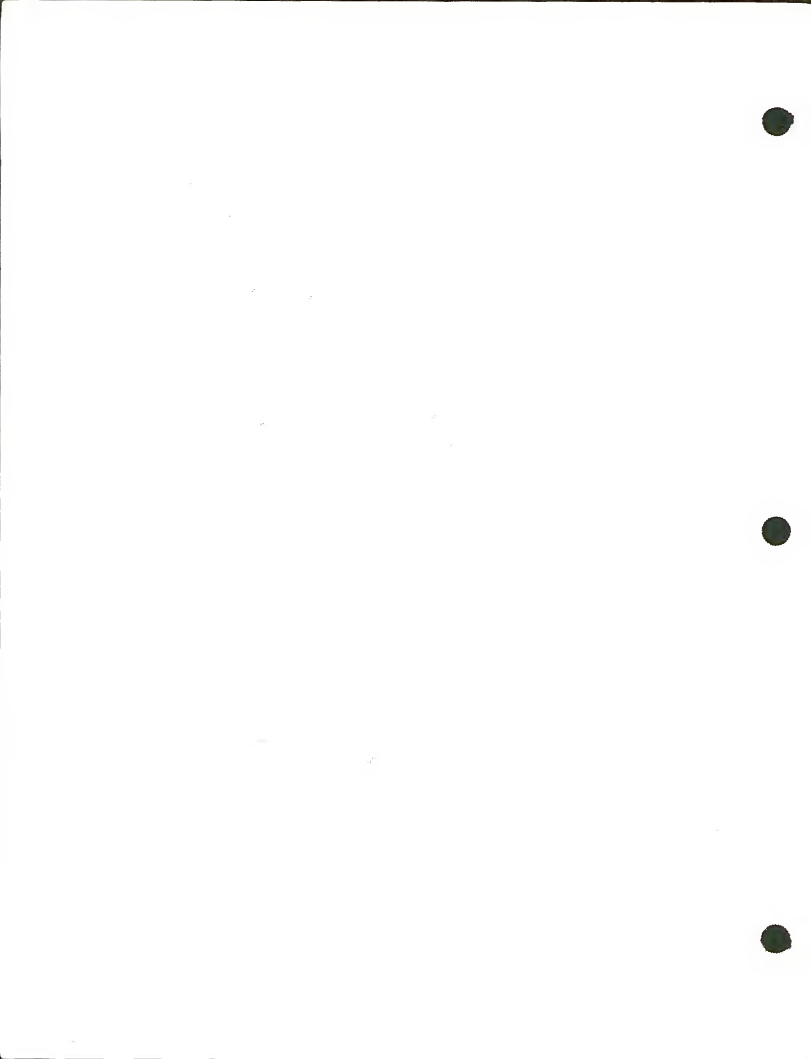
The lessee agrees promptly to notify the authorized officer of any change in the designated operator.

\_\_\_\_\_  
(Signature of lessee)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Address)

This form does not constitute an information collection as defined by 44 U.S.C. 3502 and thereto does not require OMB approval.



CAYLOR

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	OFFICE	DATE RETURNED
3-22	<del>6-10</del>	3-8-90
U.I.E.	A2-440	3-21-90
U.I.E.	OR-094	3-24-90
1.1.5		(Continued on reverse)

(Continued on reverse)

306-3 | Adrian

(Continued on Reverse)

